

ISTANBUL TECHNICAL UNIVERSITY ★ GRADUATE SCHOOL OF SCIENCE
ENGINEERING AND TECHNOLOGY

**MATERIALITY IN DOING:
SOCIOMATERIAL PRACTICES AND POWER MECHANISMS IN
INSTITUTIONAL CHANGE**



Ph.D. THESIS

Kutay GÜNEŞTEPE

Department of Management Engineering

Management Engineering Programme

JULY 2019

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**YAPMANIN İÇİNDEKİ MATERYALİTE:
KURUMSAL DEĞİŞİMDE SOSYOMATERYAL PRATİKLER VE GÜÇ
MEKANİZMALARI**

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*hatıralarımdaki eksik;
alamadığım çiçekler, öpemediğim eller, veremediğim müjdelere...*

Anneme,



FOREWORD

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ABBREVIATIONS

ANT	: Actor-Network Theory
BHSM	: Basic Health Statistics Module
CT	: Computerized Tomography
HIMS	: Hospital Information Management System
HTP	: Health Transformation Program
IS	: Information System
ITU	: Istanbul Technical University
KPI	: Key Performance Indicators
LIMS	: Laboratory Information Management System
METU	: Middle East Technical University
MoH	: Ministry of Health
MoP	: Mangle of Practice
MR	: Magnetic Resonance
NHS	: National Health System
OPE	: On-site Performance Evaluations
PACS	: Picture Archiving and Communication System
PS	: Performance Scorecard
ToI	: Theory of Imbrication
YÖK	: Yüksek Öğretim Kurumu



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MATERIALITY IN DOING: SOCIOMATERIAL PRACTICES AND POWER MECHANISMS IN INSTITUTIONAL CHANGE

SUMMARY

Materials such as objects, natural, technological, designed and raw artifacts interact with humans as organizational practices unfold in different institutional environments. Therefore, materiality is an essential constituent of everyday life as it actively takes part in the creation, maintenance, and disruption of institutions. However, the links between materiality and institutions have been understudied. Materials are mostly considered as passive objects, in which institutional traces are sometimes inscribed. Changes in practices to which institutions rely on predominantly explained by actions of human or collective actors, overlooking materiality. In this dissertation, my objective is to understand and explain how materiality, power, and actorhood constitute practices, rendering institutional change and stability possible.

The first chapter introduces the overall problem and positions the study within different strands of extant research. The research problem and the respective sub-problems are to be discussed in this chapter.

The second chapter's objective is to understand and explain how materiality enables, constrains, and constitutes actorhood. This question requires examining approaches to materiality acknowledging its agentic capacities. Accordingly, I reviewed sociomateriality perspective that is widely used among scholars considering active participation of materiality in the constitution of the social realm. I also compare and contrast different approaches that appear as antecedents of sociomateriality. Moreover, I touch on different theoretical stances on social and material aspects of change and stability in the literature and conclude with theoretical and empirical guidelines on selecting from different extant approaches in studying materiality in organizations. This chapter also presents my ontological stand in this dissertation while examining materiality.

The third chapter introduces and integrates power by considering how power and actorhood, particularly institutional entrepreneurs, in organizations attend to maintenance and change of institutions with empirical cases in Turkish higher education. In this part of the study, I conducted online and offline ethnography, where I examined the action and framing repertoire of two social movements that emerged in two prominent Turkish universities against a new regulatory change. The action and framing repertoire also involved spatial and material practices and contestation of these movements. My findings have indicated the framing tactics, and spatial action repertoire of social movements follow different stages at different episodes of the movements' lifespan and relate with each other. How the social and the material side of this relation emerges is further examined in the following chapter.

The fourth chapter addresses the specific mechanisms by which materiality attends to institutional change and stability in organizational practices via empirical case studies

in the Turkish healthcare field. To that end, longitudinal observation of the emergency departments of two major public hospitals over 21 months with a critical ethnography was carried out. The relevant data collection also covered interviews with responsible officers at the Ministry of Health in order to have a better understanding of the policy-related, multi-level dynamics. Based on this qualitative inductive approach, I developed a theoretical model involving different power-based mechanisms that take part within social and material realms and sociomaterial practices in between.

In the fifth chapter, I developed a theoretical framework that relies on my empirical findings and theoretical approaches in the extant literature. In this chapter, the theoretical framework explains institutional change and maintenance through power-based mechanisms emerging from daily actions which are constituted by interactions between social and material actors. Therefore, this theoretical framework explains how materiality, power-based mechanisms, and actorhood attend to institutional change and stability in practice.

In the last chapter, I concluded my dissertation with a discussion on my findings, contributions to the literature and discussed limitations and possible research directions that may follow this dissertation.

YAPMANIN İÇİNDEKİ MATERYALİTE: KURUMSAL DEĞİŞİMDE SOSYOMATERYAL PRATİKLER VE GÜÇ MEKANİZMALARI

ÖZET

Nesneler, doğal, teknolojik, tasarlanmış ve işlenmemiş halleri dahil olmak üzere farklı kurumsal ortamlarda yer alan pratiklerde, yani tekrarlayan düzenli eylemlerde (Schatzki, 2001a), insanlarla etkileşirler. Dolayısıyla materyallik (materiality) sosyal kurumların oluşmasının, sürdürülmesinin ve ortadan kaldırılmasının aktif bir parçası olduğu için gündelik yaşamın önemli bir bileşenidir. Ancak materyallik ve sosyal kurumlar arasındaki bağlantılar az çalışılmıştır. Materyaller genelde sosyal kurumların belli bölümlerinin zaman zaman izlerini taşıyan pasif nesneler olarak ele alınmıştır. Sosyal kurumların dayalı olduğu pratiklerdeki değişim genellikle materyalliği göz ardı ederek, insan ve kolektif aktörlerin eylemleri ile açıklanmaktadır (ör., Hargadon ve Douglas, 2001; Munir ve Phillips, 2005). Bu çalışmada amacım pratikleri oluşturan materyallik, güç ve aktörlüğün kurumsal değişim ve istikrarı nasıl mümkün kıldığını anlamak ve açıklamaktır.

Materyalliğin genellikle göz ardı edildiği bir örnek olarak, Kodak firması ve fotoğrafçılık pratiği verilebilir. Kodak 1888 yılında ilk kurulduğunda fotoğrafçılık sadece uzmanların yaptığı profesyonel bir işken, ‘Kodak moment’ kampanyasını takiben 1930’ların sonunda “kurumsallaşıp” (Oliver, 1992; Barley ve Tolbert, 1997; Lawrence ve Suddaby, 2006) sıradan insanların da hayatına giren yaygın bir pratik halini aldı (Munir ve Phillips, 2005). Satışa çıkan yeni kameraları mevcutta yaygın olan pratiklerin bir parçası gibi konumlandırmak, sıradan insanlar için ‘fotoğrafçı’ rolünü yaratmak, fotoğraf albümü gibi yeni nesneler ortaya çıkartmak ve kamerayı bir eğlence aracı olarak topluma sunmak Kodak yönetiminin stratejik eylemleri ve söyleme dayalı taktikleri olarak tartışılabilir (Munir ve Phillips, 2005), ortaya yeni çıkan kamera teknolojisinin materyal özelliklerine ve bunun insanlarla olan karşılıklı etkileşimine bu tartışmalarda çok az yer verilmiştir. Halbuki, Kodak tarafından bulunan kimyasal ile kaplanmış rulo film, kameraların daha hafif ve taşınabilir olmasını ve kolay kullanılmasını sağlamıştı. Rulo filmin ve ona dayalı kamera tasarımının materyal özellikleri Kodak’ın mevcut teknoloji ile daha önceki teknolojiyi karşılaştırmasının ve buna dayalı bir söylem geliştirmesinin önünü açmıştı.

Uzman olmayan kişilerce yapılan ve kurumsallaşan fotoğraf çekme ve bunları bastırarak fotoğraf albümlerine koyma pratiği sayesinde 1976 yılında Kodak rulo film pazarının %90’ına ve kamera pazarının %85’ine hakim oldu. 1997 yılında ise Kodak’ın şirket değeri 30 milyar doların üzerine çıktı (“Executive Summary: Ready for the New Economy”, 2015). 1997 yılında dünyanın en değerli beşinci şirketi durumundaki Kodak, 15 yıl gibi bir süre içerisinde borçlarını ödeyemeyecek duruma geldi ve 2012 yılında iflas etti (Hudson, 2012). Fotoğrafçılığın dijitalleşmesi ve hızla artan akıllı telefon kullanımı fotoğraf bastırma pratiğinin, fotoğrafın dijital ortamda paylaşıldığı bir pratiğe dönüşmesine zemin hazırladı. Bu bağlamda Kodak şirketinin küçülmesi, büyümesine kıyasla çok daha ani oldu (Hudson, 2012; “Why Did Kodak Fail and What Can You Learn from its Demise?”, 2018). Kodak’ın hikayesindeki bu

ani deęişiklik yalnızca yöneticilerin verdiği yanlış stratejik kararlarla ve sosyal hayattaki deęişiklikle açıklanmaya çalışıldığında resmin önemli bir bölümü eksik kalır. Bu hikâyede eski ve yeni fotoğraf teknolojilerinin farklı özellikleri ve bunların insanlarla karşılıklı etkileşiminin sonuçları gibi materyale dayalı olan bir bölüm de vardır.

Bunun yanı sıra fotoğrafçılıkla ilgili pratiğin kurumsallaşmasının ve bu kurumsal pratiğin ortadan kalkmasının zamansal boyutu da ayrı bir soruyu doğurmaktadır. Bir pratik toplumda 50 yıl gibi bir sürede yaygınlaşmışken, nasıl yaklaşık 15 yılda yerini başka bir pratiğe bırakmıştır? Lawrence ve diğerleri (2001) kurumsallaşmanın zamansal boyutunun deęişim ve istikrar ile ilişkili olduğunu ve bunun da güce dayalı mekanizmalara dayandığını belirtmişlerdir. Yine benzer şekilde Barnes (2001) sosyal düzenin pratiklerle tesis edildiğini ve deęiştirildiğini belirtmiş ve bir pratiğin ortaya çıkması durumunda güç ilişkilerinin oluşacağını iddia etmiştir. Güç ilişkilerinin oluşmasını sağlayan pratikler ayrıca Kodak örneğindeki gibi insanlarla materyallerin karşılıklı ilişkilerini de içermektedir (Schatzki, 2001b). Bu tez ile kuramsal ve görgül çalışmalar bakımından yeteri kadar irdelenmemiş olan kurumsal teori, güç ve materyallik yazın akımlarının kesiştiği alana (Latour, 1991; Lawrence ve Phillips, 2004; Phillips ve dię, 2004; Clegg ve dię, 2006; Lawrence, 2008; Munir, 2014) katkı sunmak amaçlanmaktadır.

Birinci bölümde, teze giriş yapılmakta, gerçekleştirilen çalışmanın önemi ve yazına yapmayı amaçladığı katkılar anlatılmaktadır. Bu bölümde ayrıca çalışmanın ilişkili yazın grupları arasında pozisyonu açıklanmakta ve çalışmanın bütününe ilişki genel bilgiler verilmektedir.

İkinci bölümde materyal varlıkların, sosyal alemin oluşumuna aktif bir şekilde katılımını benimseyen ve materyal varlıklardan kaynaklanan bir eyleme kapasitesinin de olduğunu kabul eden yazın incelenmiştir. Bu yazının ortak özellięi edimsel deyişi (performative idiom) (Gond ve dię, 2016) benimsemiş olmasıdır. Bu literatür taramasıyla materyallik aktörlüğü nasıl etkin kılar, sınırlandırır ve meydana getirir konusu araştırılmıştır. Tezin bu bölümünde materyallik ile ilgili farklı kuram ve yaklaşımları kapsayan sosyomateriyallik (Orlikowski, 2007; Orlikowski ve Scott, 2008; Leonardi, 2011) incelenmiştir. Sosyomateriyallik yaklaşımı, bilişim sistemleri (Jones, 2014; Cecez-Kecmanovic ve dię, 2014), örgütsel uzam (spaces) (de Vaujany ve Vaast, 2014; Keevers ve Sykes, 2016) ve strateji (Feldman ve Orlikowski, 2011; Balogun ve dię, 2014) gibi farklı alanlardaki araştırmalarda görülmüştür. Sosyomateriyal yaklaşımların çeşitleri olarak Aktör-Ağ Kuramı (Actor-Network Theory) (Callon, 1986; Latour, 1994, 2005), Pratikteki Diyalektik Biçimlendirme (Mangle of Practice) (Pickering, 1993, 1995) ve Bindirme Teorisi (Theory of Imbrication) (Leonardi, 2011) araştırılmış ve karşılaştırmalı olarak tartışılmıştır. Bu literatür taraması ile ilgili yazına katkı sağlanması ve bu kuramları gelecekte kullanmak isteyen araştırmacılara ışık tutmak hedeflenmiştir.

Üçüncü bölümde Türkiye'deki yüksek öğretim alanında görgül bir araştırma ile, ana araştırma sorunun bir parçası olan, örgütlerdeki güç ve aktörlük, kurumların sürdürülmesine ve deęişimine nasıl katkıda bulunuyor alt sorusu incelenmiştir. Bu kapsamda asistan kadrosundaki üniversite çalışanlarının, çalışma koşullarını belirleyen bir yasal deęişiklik karşısında sürdürdükleri direniş vakaları ele alınmıştır. Bu direnişlerden önde gelen ikisi olarak İstanbul Teknik Üniversitesi (İTÜ) ve Ortadoęu Teknik Üniversitesi (ODTÜ)'deki asistan dayanışması hareketleri incelenmiştir. Böylece sosyal hareketler kurumsal girişimci (DiMaggio, 1988) olarak

ele alınmış ve bu kurumsal girişimcilerin kurumlara (Lawrence ve Suddaby, 2006) karşı direnirken kullandıkları söylem (discourse) (ör. Misangyi ve diğ., 2008), çerçeveleme taktikleri (Framing Tactics) (Marullo ve diğ., 1996; Snow ve Benford, 1988), güç süreçleri (Lawrence ve diğ., 2001), ve uzamsal mücadeleleri (Panayiotou ve Kafiris, 2011) araştırılmıştır. Bu bölümde, kurumsal girişimci, uzam ve güç ilişkilerinin kurumsal değişimle ilişkisi ele alınmış ve özgün bir modelde, çevrim içi – dışı veri kaynaklarını birlikte kullanan yenilikçi bir görgül araştırma yöntemi ile incelenmiştir.

Dördüncü bölümde, üçüncü bölümden yola çıkılarak sosyal alem ve materyal varlıkların ilişkisi sosyomateriyallik (Orlikowski ve Scott, 2008; Leonardi, 2011) bakış açısı ile incelenmiştir. Ana araştırma sorusunun bir alt sorusu olarak, örgütsel pratiklerde kurumsal değişim ve istikrara katılan materyallüğün dayandığı özgün mekanizmalar, Türkiye’deki sağlık alanından görgül verilerle incelenmiştir. Bu kapsamda, Türkiye’de 2003 yılında uygulamaya konulan ‘Sağlıkta Dönüşüm Programı’nın 2013 yılında başlayan bir alt uygulaması olan verimlilik karnesinin kamu hastanelerinde neden olduğu sosyal ve materyal değişiklikler ele alınmıştır. Bu amaçla birbirine benzer büyüklükte, aynı şehirde bulunan iki kamu hastanesinin acil departmanları karşılaştırmalı vaka çalışması ve kritik etnografi (Carspecken, 1996) yöntemi ile boylamsal olarak incelenmiştir. Toplanan verilerden yola çıkılarak tümevarım yöntemi ile (Corbin ve Strauss, 2008) bir model oluşturulmuştur. Bu modele göre sosyomateriyal pratikten sosyal yapıyı ve materyal yapıyı değiştirecek veya sürdürecektir şekilde olaysal güç mekanizmaları ortaya çıkmaktadır. Diğer yandan sosyal yapı ve materyal yapı sistemik güç mekanizmaları ile sosyomateriyal pratiği koşullandırmakta ve sosyomateriyal pratiğe istikrar sağlamaktadır.

Tezin üçüncü bölümünde yer alan, yüksek öğretim alanında bir kurumsal girişimcinin var olduğu vakalardan ve dördüncü bölümde sağlık alanında bir kurumsal girişimcinin var olmadığı vakalardan hareketle, sosyal alem, materyal varlıklar ve güç mekanizmalarının kurumsal değişim ile ilişkisi tümevarım yoluyla ortaya çıkan farklı kuramsal görgül modellerle ortaya konulmuştur.

Tezin beşinci bölümünde ise, bu sefer salt kuramsal bir yaklaşım ile, kurumlardaki değişim ve istikrarı süreçlere dayalı olarak açıklayan Barley ve Tolbert (1997) ve kurumsal değişim ve istikrarın güç mekanizmaları ile nasıl bir ilişkisi olduğunu gösteren Lawrence (2008) temel alınarak kuramsal bir model geliştirilmiştir. Böylece ana araştırma sorusunun bir diğer alt sorusu olarak, materyallüğün, güce dayalı mekanizmaların ve aktörlüğün, pratikteki kurumsal değişim ve istikrara nasıl katkı sağladığı bu modelle açıklanmıştır. Modelde, Barley ve Tolbert (1997)’nin yapı–eyleyen ilişkisini eleştirel gerçeklik yaklaşımı (Archer, 1995) ile ele almasına dayanarak, eylemlerin, eylemin gerçekleştiği andan daha önceki etkileşimlerin sonucu olarak ortaya çıkan yapılar tarafından koşullandırıldığı kabulü benimsenmiştir. Bu koşullandırma durumu çeşitli sistemik güç ilişkilerini (Lawrence, 2008) ortaya çıkarır. Diğer yandan yaklaşımın, sosyal alem ve materyal varlıkların analitik olarak ayrı olduğunu vurgulayan eleştirel gerçeklik (Mutch, 2013; Leonardi, 2013) bakış açısına dayanmaktadır. Buna göre tıpkı sosyal yapıların eylemleri koşullandırması gibi, geçmiş eylemlerdeki etkileşimlerin sonucu olarak ortaya çıkan materyal yapılar da eylemleri koşullandırır ve sistemik güç ilişkileri burada da ortaya çıkar. Model ayrıca, eylemlerin mevcuttaki sosyal ve materyal yapıları yineleme ve değiştirme kapasitesinin olduğunu vurgulamaktadır. Modelime göre, sosyomateriyal pratiğin bir parçası olan insan, düşünümsel (reflexive) kapasitesi (Barley ve Tolbert, 1997; Archer 2003) ile kurumsal girişimci (Mutch, 2007) olarak davranıp, mevcut sosyal yapıyı

değiřtirmek için bilinçli bir řekilde fırsat arayabilir ve bu noktada materyal yapıları da değiřtirebilir. Bu değiřtirme/sürdürme çabası da bazı olaysal güç ilişkileri (Lawrence, 2008) doğurmaktadır. Dolayısıyla bu modelde, sosyal ve materyal yapıların eylemi kontrol ettięi sistemik güç mekanizmaları ve sosyomateriyal pratikteki insan-materyal etkileřimi ile sosyal ve materyal yapıların değiřtirildięi veya sürdürüldüęü olaysal güç mekanizmaları tarif edilmiřtir. Kuramsal modelin görgül çalıřmalarda nasıl kullanılabileceęi bu bölümde açıklanmıř ve gelecekte yapılabilecek dięer görgül arařtırmalar tartıřılmıřtır.

Altıncı bölümde tezin bulguları tartıřılmıř ve tezin mevcut yazına katkısı sunulmuřtur. Bunun akabinde yapılan çalıřmanın kısıtları belirtilmiřtir. Son olarak gelecekte, bu çalıřmanın da parçası olduęu sosyomateriyal örgüt çalıřmalarının ne yöne gelişme gösterebileceęine ilişkin fikirler paylařılmıřtır.



1. INTRODUCTION

Do materials really matter in the daily life of humans? How are some practices relying on materiality, adopted widely, while some others are simply not that popular? This is mostly explained by focusing on strategic actions of human actors in the extant institutional theory literature (e.g., Hargadon and Douglas, 2001; Munir and Phillips, 2005), overseeing the dimensions, by which the materiality really matters.

For example, when Kodak was founded in 1888, photography was a professional business for experts. However, after the Kodak moment (Munir and Phillips, 2005), it became quickly popular amongst everyday people and became an institutionalized practice by the late 1930s (Oliver, 1992; Barley and Tolbert, 1997; Lawrence and Suddaby, 2006). On the other hand, there are also strategic actions employed by Kodak, such as embedding new cameras to already established photo-taking practices, creating new roles for laypersons as “photographers” and introducing new supporting artifacts like photo albums, which ultimately positioned the camera as a fun device (Munir and Phillips, 2005). All of this relies on the materiality of the new camera technology and its interactions with humans as both individuals and society. For example, chemically coated roll-films, introduced by Kodak, enabled the cameras to be lighter, more portable, and user-friendly. Material characteristics of the roll film and the camera design had been relying on this. It provided a base for Kodak to compare and contrast the new technology with the old one and allow different actors to develop their discursive tactics, material actions, and daily practices accordingly. In 1976, Kodak dominated the market and sold 90% of films and 85% of cameras across the world. By the year 1997, Kodak’s value reached more than \$30 billion (“Executive Summary: Ready for the New Economy”, 2015).

Just like its establishment, the demise of Kodak has also been phenomenal. Kodak, as the world’s fifth most valuable brand in 1997, went bankrupt within just 15 years, in 2012 (Hudson, 2012). The company’s downfall was more rapid than its rise with the digitalization of photography and the introduction of smartphones, which drove the evolution of photography from printing photos on paper to sharing photos on social

media (Hudson, 2012; “Why Did Kodak Fail and What Can You Learn from its Demise?”, 2018). If we explain this abrupt change in Kodak’s story with only the wrong strategic decisions taken by its managers, the shifts in the technology and consumer preferences, an essential part of the picture would be overlooked. Both the old and new photography technologies and their interactions with humans have different material and temporal dimensions that have contributed to the sudden demise and replacement of Kodak. Why and how a practice like photography, that has been spread out in the society worldwide in nearly 50 years, has completely changed in just 10-15 years, while many practices in other fields remained, withstanding major social and technological changes?

Lawrence et al. (2001) relate this temporality with the pace and stability of the institutionalization and power-based mechanisms. Similarly, Barnes (2001) argues that social order is established and changed through practices where power relations emerge. However, practices, as in the Kodak example, are comprised of relationships between humans and materials (Schatzki, 2001a), granting potentially pivotal and differential roles to both humans and materials, rendering extant explanations insufficient to explain how different forms of materiality may attend to sociomaterial practices and institutional processes differently.

In this dissertation, I deal with this broad problem and illustrate how materials and materiality actively contribute to the constitution, maintenance, and change of social order, just like humans do, via different power-based mechanisms. My objective is to contribute to the intersection of three major literature streams institutional theory, power, and materiality (Latour, 1991; Lawrence and Phillips, 2004; Phillips et al, 2004; Clegg et al, 2006; Lawrence, 2008; Munir, 2014). I make my inquiry with this dissertation in order to understand and explain *how materiality, power, and actorhood constitute practices, rendering institutional change and stability possible*.

1.1 Structure of the Dissertation

This first chapter introduces the overall problem and positions the study within different strands of extant research. The research problem, structure of the dissertation and contributions to the literature are discussed in this chapter.

The second and third chapters include case studies from professionally dominated fields showing how the social and the material relate to each other in the way of creating, disrupting, and maintaining institutions (Lawrence and Suddaby, 2006). The second chapter aims to understand and explain how materiality enables, constrains, and constitutes actorhood. This question requires examining approaches to materiality by acknowledging its agentic capacities. Accordingly, I review sociomateriality (Orlikowski, 2007; Orlikowski and Scott, 2008; Leonardi, 2011) perspective that is widely used among scholars, considering active participation of materiality in the constitution of the social realm. I also compare and contrast different approaches that appear as antecedents of sociomateriality. Moreover, I touch upon different theoretical stances such as duality and dualism on social and material aspects of the sociomateriality literature. Finally, I conclude with theoretical and empirical guidelines on selecting from different extant approaches in studying materiality in organizations. This chapter presents why dualism perspective is embraced in the rest of the dissertation while examining the relations between the social and the material.

The third chapter introduces and integrates power by considering how power and actorhood in organizations attend to the maintenance and change of institutions via empirical research in the Turkish higher education field. In this part of the study, I conducted online and offline ethnography (Tunçalp and Lê, 2014), where I examined the action and framing repertoire of two social movements as institutional entrepreneurs (DiMaggio, 1988) that have emerged in two prominent Turkish universities against a new regulatory change. The action and framing repertoire (Marullo et al, 1996; Snow and Benford, 1988) also involved spatial and material practices (Panayiotou and Kafiris, 2011) and contestation of these movements. My findings reveal that the framing tactics and spatial action repertoire of social movements follow different stages at different points of the movements' lifespan. Moreover, discursive tactics are related to spatial actions of institutional entrepreneurs. However, how these relations appear in terms of power-based mechanism requires further investigation which is performed with the empirical research presented in chapter four.

The fourth chapter is to understand and explain the specific mechanisms by which materiality attends to institutional change and stability in organizational practices. To that end, I collected data from the emergency departments of two major public

hospitals in Turkey (Yin, 1994) over 21 months with a critical ethnography (Carspecken, 1996). My data collection also covered interviews with responsible officers at the Ministry of Health in order to have a better understanding of the policy-related, multi-level dynamics. Based on this qualitative research (Corbin ve Strauss, 2008), I developed a theoretical framework, involving different power-based mechanisms that take part within and between social and material realms and the sociomaterial practices in between. While fieldwork draws links between everyday practices and institutions, the contribution of strategic actors as institutional entrepreneurs remained out of the scope. In order to integrate institutional entrepreneurs as purposeful change agents, I developed a theoretical framework in the following chapter.

Accordingly, the fifth chapter is composed of the development of a theoretical framework that relies on the novel combination of extant literature and insights gathered during the empirical field works. This theoretical framework that is inspired by Barley and Tolbert (1997)'s model explaining institutional change and maintenance through actions, and Lawrence (2008)'s model showing power-based mechanisms between institutions and agency. The theoretical framework in this chapter explains how materiality attends to institutional change and stability in practice. In this model, I relate sociomateriality with power-based mechanisms in institutionalization and deinstitutionalization, linking materiality with institutions.

In the last chapter, I discuss my findings and provide an overview of my contributions to this study. Following that, I mentioned the limitations of this study. I finalized this dissertation with possible future research and concluding remarks.

1.2 Contributions of the Dissertation

This dissertation has several contributions to the literature. First of all, with the empirical and theoretical research, I show that how materiality can enrich our understanding of the constitution of social order through shaping practices and participating in the emergence of new identities and meanings. Put differently, this dissertation presents the role of materiality that takes part in the change and maintenance of social order with its symbolic and physical being.

As a practical implication, this dissertation presents the richness of sociomateriality perspective, which takes growing attention among scholars considering materiality, is depicted with a comparative analysis of two ontological approaches to this perspective. Accordingly, this dissertation has the potential to guide social sciences scholars who are eager to further study materiality.

Moreover, the existence of institutions is highly related to power-based mechanisms as they endure or cease as a result of power relations. However, institutional analysis of power is one of the underexamined and undertheorized areas of research. Thus, another significant contribution of this dissertation would be its attempt to explore how power participates in the change and maintenance of institutions in both the empirical and theoretical senses. To that end, this dissertation provides different approaches to explore these relations. For example, the third chapter introduces a novel framework to examine framing tactics, which are shaped by materiality and employed by institutional entrepreneurs to exercise power. The fourth and fifth chapters draw links between power-based mechanisms between institutions, materials, and practices. The fifth chapter, moreover, shows how materiality is associated with institutional entrepreneurship and relevant power-based mechanisms.

Furthermore, my empirical fieldwork in this dissertation is conducted in higher education and healthcare. Both of them are professionally dominated and have been undergoing a major institutional transformation for a number of years in Turkey and abroad, in terms of transforming their governmental structures from bureaucratic forms to modern managerial forms. Therefore, understanding and explaining the institutional change in these two fields are crucial and significant for the development of society. Moreover, understanding power-based mechanisms arising from the social and material realms, that condition and change practices, is essential to understand the dynamics of our local context.

The theoretical framework generated in this dissertation considers power-based mechanisms arising from the physical state of materials, which is different from humanist abstractions. Accordingly, they provide an opportunity to study coercive sources of power, which are mostly neglected in the extant literature. These power-based mechanisms are crucial for the institutional studies, as they render the compliance of practices to some conditions that constitute the institutionalization processes.

This dissertation also contributes to the extant literature with its methodological approaches in the empirical fieldwork. The qualitative research in the higher education field can be considered as a fruitful example of online ethnography, which is less than prevalent in the literature. Online and offline data are examined together in order to explore the relation of discursive tactics with spatial contestation. The empirical fieldwork in healthcare is comprised of a critical ethnography, which is conducted in parallel settings and at multiple levels. By this way, both micro and macro-level processes taking part in power relations, and neutralized and materially driven sources of power are revealed. This research strategy could be used in studies embracing the sociomateriality point of view and help researchers to carry out nomothetic studies.



2. LITERATURE REVIEW

2.1 Materiality in Doing

Researchers in organization studies have mostly examined materiality and materials with their role as exogeneous determiners of the social (Woodward, 1958), sources of power (Pfeffer and Salancik, 1978), carriers of logics (Friedland and Alford, 1991), and means of communication (Yates and Orlikowski, 1992). In these studies, researchers often use a macro-level understanding while examining materiality as a social phenomenon. However, especially within the last two decades, the focus of organizational scholars shifted from “what materials stand for” to “what materiality does,” thanks to the proliferation of performative idiom (Gond et al, 2016).

The growing body of research on practices (Schatzki, 2001a; Monteiro and Nicolini, 2015; Lamprou, 2017; de Vaujany et al, 2018) and the increasing participation of the materiality into organizing (Orlikowski, 2007; Pentland et al, 2011; Leonardi, 2011; Mazmanian et al, 2014) have changed the way we understand materials in organizations. In this new line of thinking, materials are considered as active constituents of the practices holding agentic capacities, rather than merely understanding them as passive physical objects. This understanding brings different approaches to agency into organizational studies, that considers sustaining, altering, and extinguishing practices (Latour, 1994; Pickering, 1995; Leonardi, 2011).

Furthermore, Orlikowski and Scott (2008) and Orlikowski (2009) introduced the *sociomateriality* perspective to organization studies (Orlikowski, 2009). The perspective focuses on the material aspects of everyday organization activities, emphasizing the mutually shaping capacities of the social and the material within practices. The authors introduced “sociomateriality” as an “umbrella term” (Orlikowski and Scott, 2008, p. 434) from Suchman (2002), which later spread into different fields, like information systems (e.g., Jones, 2014; Cecez-Kecmanovic et al, 2014), organizational spaces (e.g., de Vaujany and Vaast, 2014; Keevers and Sykes, 2016) and strategy (e.g., Feldman and Orlikowski, 2011; Balogun et al, 2014). The authors have intended to introduce “sociomateriality” as an umbrella perspective to

cover other approaches that consider materiality (and the agency arising from materiality) seriously (Orlikowski and Scott, 2008). These perspectives are namely the Actor-Network Theory (ANT) (Callon, 1986; Latour, 1994, 2005) and the Mangle of Practice (MoP) (Pickering, 1993, 1995).

The early articles of the sociomateriality perspective (Orlikowski, 2007; Orlikowski and Scott, 2008; Feldman and Orlikowski, 2011; Keevers et al, 2012) make use of some concepts of ANT and MoP and embrace an *agential realist* ontology (Barad, 2007). Later, taking an ontologically critical perspective, Leonardi (2011) introduces the Theory of Imbrication (ToI) as an alternative approach to consider the active role of materiality. Despite its ontological variation, ToI is a sociomaterial perspective (Leonardi, 2011). Similar to ANT and MoP, ToI also conceives agential capacities of materials but theorizes them differently. However, ToI has a *critical realist* stance in its ontological consideration (Leonardi, 2013).

While sociomateriality, as an umbrella term, may cover ANT, MoP, and ToI, this wholesale understanding may also easily conceal their differences. The ontological stance taken by the researchers is crucial for defining the analytical and methodological approaches. Accordingly, I review extant sociomateriality research to question *how materiality enables, constrains, and constitutes actorhood*, in order to draw historical roots of materiality in doing. In this review, I compare and contrast ANT, MoP, and ToI to understand the fundamental similarities and differences among them that may further guide researchers with different ontological stances.

This review is essential as it describes the theoretical diversity and the richness of approaches to sociomateriality, which receives growing attention among the organizational scholars. Moreover, this review also indicates some gaps that may expand topics of research for materiality in social and organizational studies. It may also trigger a new theoretical and empirical inquiry and possibly be employed as a guide to decide between alternative approaches to materiality, based on different ontological and methodological stances that the researchers might have

This chapter is organized as follows; first, the structure of the review is presented. Then, an overview of materiality and actorhood to provide a basis for the review is explored. Later, ANT, MoP, and ToI are compared and contrasted as approaches that acknowledge material agency, based on the review. Then, how these approaches relate

to sociomateriality and the different ontological stances are displayed. Finally, the sociomateriality perspective in studying materiality is discussed and the underexamined research areas are presented as possible new research directions.

2.2 Structure of the Review

In order to locate the extant research on sociomateriality, I searched for articles at the Web of Science index, with “sociomaterial*” and “socio-material*” in the topic (including keywords plus that are added after the editors’ reviews). I limited the literature search with the top-tier journals in order to cover most impactful research in the extant literature. For that purpose, I searched only the journals that are classified as 4 and 4* in “Organization Studies,” “General Management,” “Information Management,” and “Social Sciences” subject areas in the ABS Academic Journal Guide 2018. According to this search, I have found 46 articles between 1970-2018.

The distribution of the articles between years is given in Figure 2.1. It shows that sociomateriality perspective has been taken attention of scholars after two seminal papers of Orlikowski (2007), and Orlikowski and Scott (2008) in the reviewed journals. These two papers have promoted the sociomateriality perspective with the studies focusing on the materiality in the social realm.

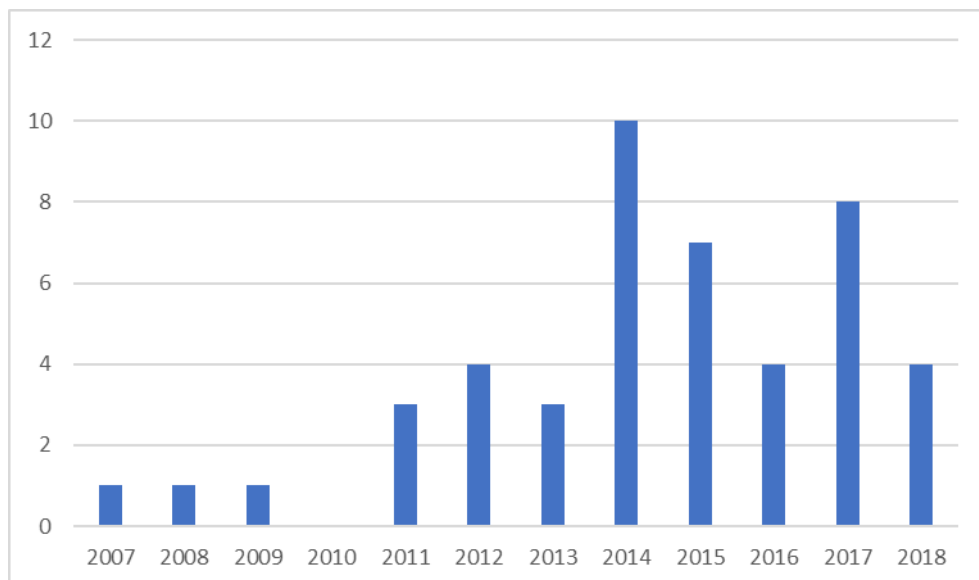


Figure 2.1 : Number of articles on sociomateriality over time.

I coded articles that mentioned ANT, MoP and ToI including the seminal papers of these approaches, such as Callon, (1986), Latour, (1994) and Latour (2005) for ANT,

Pickering (1993) and Pickering (1995) for MoP, and Leonardi (2011) for ToI. Moreover, I also coded papers that referred to notions from these approaches. I found that 34 of 46 articles have mentioned ANT, MoP, or ToI, or notions from ANT, MoP, or ToI, at least once. Seventeen papers referred to two of these approaches and four papers referred to all of them.

Based on my search results, sociomateriality seems to be active in the areas of organization studies, general management, and information management (Leonardi, 2011; Kautz, and Jensen, 2013; Jones, 2014), whereas the other fields of social sciences remain relatively silent. The only paper that appears in other fields of social sciences is in Economic Geography (See Table 2.1).

Table 2.1 : Distribution of sociomateriality articles over subject areas and journals.

Subject area	Journal name	Number of articles
Organization Studies	Organization Studies	9
	Organization Science	5
	Human Relations	5
	Organizational Research Methods	1
General Management	British Journal of Management	3
	Journal of Management Studies	2
	Academy of Management Journal	2
	Academy of Management Annals	1
Information Management	MIS Quarterly	12
	Information Systems Research	4
	Journal of Management Information Systems	1
Social Sciences	Economic Geography	1

During my review, I also coded what type of materials do the papers are interested in as Orlikowski (2007), and Orlikowski and Scott (2008) define a broader view of materials such as spaces, places, information systems, devices, algorithms, that can be the subject matter of the studies on sociomateriality. I coded these 46 papers whether they consider materiality as “technology,” “technology & others” or “others” where “others” denote materials such as spaces, places, artifacts, and other things. I also coded whether the technology identified as information technology or a different type of technology. In my sample, 42 of the studies are concerning digital technologies, and 37 of them covers information technologies like information systems, software, and algorithms. I only located three articles that examine other materials. These are material resources (without a specific definition), food, music, photographs, diagrams, and tables. Only one paper considered “space” as the focal material phenomena.

I also coded conceptual differences of empirical papers that arise from their ontological consideration of the sociomateriality perspective. I will elaborate on ontology-based coding later in this chapter. Moreover, as a post-analysis, I coded whether power and institutional theory are considered within these studies to identify possible gaps in the literature and suggest future directions for studies with sociomateriality perspective.

In this section, I briefly described the methodology of my review and my sample. In the next section, I give an overview of materiality and actorhood to provide a basis for my review and my further treatment of ANT, MoP, and ToI, based on their understanding of material agency.

2.3 Materiality and Actorhood

Berger and Luckmann (1966) argue that all human activity is subject to habituation, which is comprised of patterned actions that can be performed with minimal effort. According to them, a habituated activity can be social or non-social. Their example is a solitary individual on a deserted island, who constructs a canoe from matchsticks. When this man wakes up every morning, over time, he starts to follow an operating procedure. One of the several choices of doing a canoe from matchsticks, this procedure provides the man with an economy of effort. However, this also constrains the man and narrows down his potential choices. According to them, this kind of habituation is an antecedent of institutionalization, even for a solitary man who is not involved in any social interaction.

According to Berger and Luckmann (1966, p. 72), “institutionalization occurs whenever there is a reciprocal typification of habituated actions by types of actors.” There needs to be at least one other actor for social interaction and typification of reciprocal actions. Accordingly, they continue the story about matchstick canoe builder (namely, Robinson Crusoe) by involving another actor (namely, Man Friday) and go on to explain the institutionalization of a practice. From the typification of interactions between the two actors, the role of each actor emerges, allowing to predict the other’s actions. When a third party is added to the dyadic relationship, the social world passed to the newcomer as a historical institution. This example underlines the practice-based foundations of social structures and renders habituation and typification as critical mechanisms. There is also a hidden “thing” in this example as

“matchsticks” and “the-canoe-in-making.” These materials are also constituents of the respective institutionalization process.

Similarly, Schatzki (2001b) defined social order with a practice-based nature, comprised of relationships between humans and non-humans:

[Social order is] arrangements of people and of the artifacts, organisms, and things through which they coexist, in which these entities relate and possess identity and meaning. To say that orders are established within practices is to say that arrangements —their relations, identities, and meanings— are determined there (p. 61).

Materials, in the early studies embracing the practice-based view, were considered with their enabling and constraining features participating in the stabilization of practices. For instance, institutions are “conceived of as simultaneously material and symbolic” (Friedland and Alford, 1991, p. 241). Accordingly, symbolic values of material practices provide meaning and stability to social life. This approach ascribes a passive role to materials in the practices and renders them as the mere “carriers” of institutions (Scott, 2003, p. 879). Carrying an institution is done through inscribing institutions into materials. For example, materials such as “objects complying with mandated specifications,” “objects meeting conventions, standards” and “objects possessing symbolic value” are related with regulative, normative and cognitive pillars of institutions respectively (Scott, 2001, p. 77). Therefore, material practices appear as actors’ enactments of social structures. Interactions between humans and materials, in reality, can be read as the relation of actors and their social structures.

Actorhood and agency in these studies focus on humans and human agency by associating agency with humanist properties such as intention and purposefulness (Giddens, 1984; Emirbayer and Mische, 1998). Humans are considered as change agents that can maneuver within a repertoire and adapt their actions in emerging situations (Emirbayer and Mische, 1998). In this sense, social structures become a product of purposive actions of humans or collectives, such as organizations and social movements (Lawrence and Suddaby, 2006). Whereas agency is linked to intention or purposefulness, it is not examined as solely related to these constructs. Agency is also acknowledged as “doing” things and having practical implications in the actual world (Giddens, 1984, p. 10). Moreover, Clegg (1989) argues that “not all agents are human actors. Agency may be vested in non-human entities as diverse as machines, germs, animals, and natural disasters” (p. 188).

More recently, a practice-based line of inquiry focused the attention to micro-foundations of the social phenomena (Powell and Colyvas, 2008) and capacities of materiality to change a social phenomenon (Pickering, 2001). For example, Pinch (2008) argued that the agency of actors produces, reproduces, and sometimes changes the material dimensions of institutions. However, he also acknowledged a form of agency that emerges from the materiality itself, producing, reproducing, and changing the social dimension of institutions.

The scholars, examining materiality in the micro-processes of the social and acknowledging agentic capacities arising from materiality make use of the concept of performativity to understand and explain what materials do (Pickering, 1995; Latour, 2005; Orlikowski, 2007; Orlikowski and Scott, 2008; Leonardi, 2011). The term, performative, was first introduced by John Austin (1962), in order to explore how we do things by saying words. However, the concept is later used in several other research fields as well as examining materiality in doing.

The sociomateriality perspective considers performativity as its primary mechanism (Orlikowski and Scott, 2008). Still, scholars, who adopt this term in their studies used it in different ways, according to their ontological and epistemological positions (Gond et al, 2016). Said difference draws how materiality relates to actorhood in social studies.

2.3.1 Actor-Network theory

Attention to the material agency has arisen in sociology with ANT (Callon, 1986; Law, 1999; Latour, 1994, 2005) and has been adopted in different fields, including sociology, organization studies, and anthropology. ANT applies the semiotics of materiality by considering relationality of entities both for linguistics and materials to explore their associations (Callon and Latour, 1992; Law, 1999), within which actions are directed, instructed and triggered by the relation of humans and materials (Latour, 1999). According to ANT, there is a perfect symmetry between human and non-human actants (Callon, 1986) and agency emerges through their different and mutually constitutive associations. The associations (i.e., actor-networks) form and remain as long as “they are performed in, by and through relations” (Law, 1999, p. 4) that render performativity essential for ANT.

Taking a non-essentialist approach, ANT rejects entities having inherent properties with distinctive boundaries, including humans and non-humans (Law, 1999). This perspective frees the agency from being a monopolistic property of humans. In this approach, an actor-network can be an actor, such as humans and materials (non-humans), the activity, which could network with others and a network, which can change its constituents (Callon, 1987). Thus, defining an actor-network as an actor or a network is similar to using a lens to probe a phenomenon.

There are four critical concepts of ANT; translation, alignment, inscription, and irreversibility (Monteiro and Hanseth, 1996). These concepts are used to explain how actor-networks appear and become stabilized. The interests of some actors in society are translated into technical (or social) arrangements, in order to align actors, stabilize their relations, and converge their actor-networks. Translating one's interests into texts, materials, and bodily skills are defined as an inscription. When two translations link together, they constitute the third one. The impossibility of returning to the initial situation of translations is defined as the irreversibility of an actor-network. According to ANT, strongly convergent and irreversible networks become black-boxed and punctuated (Callon, 1991).

2.3.2 The mangle of practice

As one of the early attempts, Pickering examined material agency in his MoP (Pickering, 1993; 1995) perspective. While this perspective is developed with respect to scientific practices and embraces performative idiom, its use has also extended towards other lines of inquiry. According to MoP, agency refers to doing things, and this property cannot be limited to humans only (Pickering, 1995).

Pickering appreciates ANT for acknowledging the role of the material agency. However, he underlines two main problems. First, the semiotic thinking of materiality (Pickering, 1993) creates a representation problem, as signs for both human and material agency are understood with cross-sectional analysis and confine materiality into texts. As a solution, MoP proposes an interactive model, where practice emerges throughout time with a dialectic resistance and accommodation of human and material agency (Pickering, 1993), "where resistance denotes the failure to achieve an intended capture of agency in practice and accommodation, an active human strategy of response to resistance" (Pickering, 1995, p. 22). Therefore, there is still room for the

inherent properties of humans and materials in MoP, other than the ontological viewpoint of ANT.

According to MoP, the second problem with ANT is the perfect symmetry, imposed between humans and non-humans, due to its semiotic thinking. In MoP, the intentionality of human agency distorts the exact symmetry claimed in ANT because of “the temporal emergence of plans and goals and their transformability in encounters with the material agency” (Pickering, 1995, p. 18). According to MoP, material agency manifests itself temporally in practice. Therefore, boundaries of the material agency are never known in advance, and its social counterpart can only explore it in due course (Pickering, 1995). Hence, MoP acknowledges the temporality of practices, unlike ANT.

In practice, disciplined human agency and captured material agency collectively define and sustain each other. This reciprocal relationship is interactively stabilized throughout time (Pickering, 1989), which is called “tuning” (Pickering, 1995). Moreover, the human and material agency are constitutively entangled, named as the dance of agency. In that sense, human intentions are constrained by the captured material agency, while material agency tunes goals in different practices (Pickering, 1995).

2.3.3 Theory of Imbrication

Leonardi (2011) developed ToI with arguments similar to MoP perspective, such as asymmetry between human and material agency, because of the goal-seeking the role of the former and the temporal interaction among two agencies. According to ToI, human agency is defined as “the ability to form and realize one’s goals,” and the material agency is defined as “the capacity for nonhuman entities to act on their own, apart from human intervention” (Leonardi, 2011, p. 148). In ToI, material (technologies’) agency appear through their performativity, which Leonardi defines as the “things [technologies] do that users cannot completely or directly control” (Leonardi, 2011, p. 148). ToI considers hardware and software as constituents of technology and leaves technologies such as mere physical objects out of the scope (Leonardi, 2011).

The relation between human agency and material agency are drawn through two concepts: affordance and constraints. According to the result of relations between the

human agency and the material agency, routines and materials (technologies) are revised as follows: (1) Routines change, if the material agency affords the human agency; (2) materials (technologies) are altered, if the material agency constraints the human agency (Leonardi, 2011). Changes in routines and materials (technologies) are defined as imbrication (Leonardi, 2011). According to ToI, the interweaving of human and material agency imbricates over time, and emerging patterns of interactions render them to function interdependently (Leonardi, 2011). ToI also argues that human and material agencies are ontologically related and empirically distinct phenomena (Leonardi, 2012a).

2.3.4 Comparing and contrasting ANT, MoP, and ToI

ANT, MoP, and ToI suggest materials are active constituents of the social realm, just like humans. They embrace the performative idiom and focus on what materials do in practice. On the other hand, these approaches can differ from each other in their consideration of (1) Ontology, (2) Inherent capacities, (3) Form of relations, (4) Performativity, (5) Shift in relations and (6) Disorder to order. These differences necessarily render them as distinct approaches of materiality (See Table 2.2).

2.3.4.1 Ontology

ANT is one of the first approaches in claiming the essential role of materials in social life. It has challenged the fundamental philosophical divisions such as agency & structure, human & non-human, before & after, materiality & sociality, and context & content (Law, 1999). ANT considers humans and nonhumans as actants that constitute networks, whereas networks are the ontological units of everything. According to ANT, different actants at the same level in their networks involve different relations with different configurations (Callon, 1999). Scholars criticizing ANT argue that it offers a flat ontology and ignores the stratification in society that weakens its explanatory power (Mutch, 2002).

MoP, on the other hand, claims that “human actors are [...] inextricably entangled with the nonhuman” in practice (Pickering, 1995, p. 26), whereas this argument appears to be a claim for an ontological unity, arising from the intertwining of humans and nonhumans, following the explanations that distinguish the two (Barad, 2007). According to Pickering (1995), disciplined human agency and captured material agency emerge throughout temporal relations between humans and materials.

Table 2.2 : Comparative table of ANT, MoP, and ToI.

Approach	Ontology	Inherent capacities	Form of relations	Performativity	Shift in relations	Disorder to order
ANT	Agency of inseparable relations between humans and materials (Flatness)	Anti-essentialism (Exact symmetry: None of the actors have inherent characteristics)	Mutually constitutive associations (Network)	Bringing statements into being	Translation	Punctualization (Strongly irreversible network)
MoP	Human and material agency distinction (Temporality)	Room for inherent capacities (Asymmetry: Humans discovering contours of materials)	The dialectic of resistance and accommodation (Interaction)	Bringing statements into being	Tuning	Interactive stabilization (Captured material agency and disciplined human agency)
ToI	Human and material agency distinction (Temporality)	Room for inherent capacities (Asymmetry: Humans having head status and materials having complementary status)	Perceived affordances and constraints of technology (Interaction)	The capacity of materials to act on their own	Changing routines and altering technology	Imbrication (Interdepending functioning of distinct elements)

In ToI, the ontology of the social and the material are drawn separately. According to Leonardi (2011), both routines and technologies emerge from interactions between human agency and material agency as time unfolds:

Although we may make the ontological claim that routines and technologies are indistinguishable phenomena because they are both constituted by human and material agencies, we must be mindful that the ways in which those agencies are weaved together produce empirically distinct figurations (p.151).

This ontological view corresponds to a sociotechnical system view and can be considered as the “continuation” of this approach (Cecez-Kecmanovic et al, 2014, p. 814). However, Leonardi (2012b) distinguishes sociotechnical systems and sociomaterial practices by defining the latter as the subsystem of the former.

2.3.4.2 Inherent capacities and form of relations

According to ANT, all actants such as humans, materials, technologies, and social structures take equal importance in the constitution of networks. Some view this as a shortcoming to address different interpretations of materials in different contexts and the success and failure of one technology over others (Whittle and Spicer, 2008).

MoP and ToI, conversely, provide room for inherent capacities of humans and nonhumans by discussing an asymmetry between human agency and material agency. They claim that the former has the property of intention that leads to respective interactions. For example, MoP argues that materials have an agency that temporally emerges, whereas human agency discovers the contours of material agency (Pickering, 1995). Similarly, ToI considers the leading status of humans because of its purposeful actions (Leonardi, 2011). Therefore, both MoP and ToI acknowledge the inherent characteristics of agencies of humans and materials.

In ANT, relations between humans and materials establish networks. ANT prefers considering these relations as “associations” rather than “interactions” as the latter evokes a separated view of entities; whereas MoP and ToI take an interactionist stance allowing ontological separateness. However, there is a nuance between MoP and ToI in defining their “interactions”: While MoP defines the two-way interaction between material agency and human agency as “resistance” and “accommodation” (Pickering, 1995), ToI highlights perceived “affordances” and “constraints” to be arising only from human agency towards material agency (Leonardi, 2011).

2.3.4.3 Performativity

Performativity is a crucial construct for all three approaches. In ANT, performativity is essential for the ontological existence of networks (Law, 1999). Similarly, Latour explains the relation between performativity and the ontological being of networks as “if you stop making and remaking groups, you stop having groups” (2005, p. 35). So, the relation between humans and materials exist, as long as they are enacted in a way that brings representational statements into being (Gond et al, 2016).

Similarly, MoP considered performativity as bringing scientific statements into being (Gond et al, 2016). According to Pickering, performativity in science is explained as “powers, capacities, and performances, situated in machinic captures of material agency” (1995, p. 7). Accordingly, MoP puts forward performativity as an envelope for real-time practice that defines a space in which humans and materials are entangled, including situated actions (Pickering, 1995).

ToI, on the other hand, uses performativity in explaining material agency as the capacity of materials to act on their own (Leonardi, 2011). In this sense and different than drawing the relation between representation and expression in ANT and MoP, performativity is used to define the distinction between human and material agency (Gond et al, 2016).

2.3.4.4 Shift in relations

Shifts in the relations of humans and materials appear in translations that have a central role in ANT. Interests of an actor are translated into another actor, which may be human or material, forming a network. The success of this network to reach the interests relies on the correspondence of actors. If the network is not strong enough to reach the goals, the actor populates the network with others, which brings the network to an unpredictable future. These new actors can attach to or detach from the network due to its different versions in the way of reaching the goals (Latour, 1991; Callon, 1991).

MoP uses the term tuning in order to define the shifts in the relations between humans and materials. During the interactions between human agency and material agency, comprising of reciprocal resistance and accommodation, the human agency seeks the contours of the material agency, which cannot be known before and emerge temporally in practice. Tuning, moreover, causes altering the goals for human agents (Pickering,

1995). Different than the intermittently appearing versions of networks in ANT, MoP describes shifts in a continuum. Moreover, while changes in an actor-network could result in the attachment or a detachment of both a human or a material actor, MoP considers the relations between humans and materials. In other words, the former counts on shifts in the relations between human-human or human – material, while the latter describes shifts through human – material relations.

Similar to MoP, ToI examines relations between human agency and material agency as a continuum. In ToI, the change appears in case of perceived affordances or constraints of material agency. If a material agency affords a human agency, the routine changes, and if this relationship ends with a perceived constraint, material (technology) is altered (Leonardi, 2011). From this perspective, ToI can describe the stratified nature of the interactions.

2.3.4.5 Disorder to order

Periods of disorder that cause shifts in relations between humans and materials end with a period of the order, which is described differently in these three approaches. ANT describes the state-of-order as “punctualization” which refers to the strong irreversibility of the network. In that state, it is complicated and costly to reverse the actor-network to its prior situation (Callon, 1991). MoP approach claims that “the dance of agency” between human and material causes discipline human agency and capture material agency. So, interactions are stabilized in practice over time, as a result of tuning (Pickering, 1995). Similarly, ToI uses the metaphor of imbrication that refers to change in routines or technology as a result of perceived affordances and constraints of materials (technology) (Leonardi, 2011).

All three approaches cover power and political processes while explaining the change from disorder to order. Performativity, embraced in these approaches, renders them appropriate to consider practically gained and exercised power (Marabelli and Newell, 2014). However, some scholars argue that there are shortcomings of ANT, regarding its consideration of power and politics. For instance, because of the translation concept, actors who are out of networks become marginalized, and the power distribution is not hierarchical due to its flat ontology (Whittle and Spicer, 2008). While ANT considers power in a more deterministic way with its punctualization

concept (Whittle and Spicer, 2008), MoP and ToI are more viable to hierarchical treatments of power, as they rely on a stratified ontology.

2.4 Sociomateriality: Duality and Dualism Debate

Sociomateriality perspective covers the abovementioned approaches, ANT, MoP, and ToI, which study the relations of social and material. The summarized differences of these approaches are also reflected in theoretical debates for sociomateriality perspective. The primary debate on this issue is about dualism and duality of the social and the material while studying sociomateriality. Moreover, these two different ontological viewpoints bring different jargons into the sociomateriality perspective (Kautz and Jensen, 2013).

Early theories on sociomateriality reject a dualism of the social and material by arguing that these two are inextricably intertwined and “constitutively entangled in everyday life” (Orlikowski, 2007, p. 1437). This relational position of the social and the material aim to take a non-essentialist approach, without privileging social or material aspects to have a prior determinism over the other, based on the agential realist ontology of Barad (2003; 2007). According to Barad (2007),

...the primary ontological unit is not independent objects with inherent boundaries and properties but rather phenomena... [This] phenomena do not merely mark the epistemological inseparability of the observer and observed, or the results of measurements; rather, phenomena are the ontological inseparability entanglement of intra-acting ‘agencies’ (p. 139).

Therefore, inseparable entanglement of the social and the material are like the two sides of the same coin, comprising of the ontological units of everything. In the epistemological side, researchers do not split examined phenomenon as social (such as meaning, identity or context) and material (such as artifact, technology or media) by considering the practice as sociomaterial (Orlikowski and Scott, 2008).

Moreover, Scott and Orlikowski (2013) argue that the non-separable ontology of the social and the material is the strength of the agential realist perspective. According to Scott and Orlikowski (2013), it provides “an ontological position and theoretical apparatus for examining entanglement and enactment, [by offering] conceptual and analytical traction for making sense of the world and its possibilities in new ways” (p. 77). Accordingly, studying materiality for specific cases, such as technology implementation, is problematic per se, as it renders materiality as an “incidental or

intermittent” part of the social (Orlikowski, 2007, p. 1436), concealing the integrity of it with the social.

However, some scholars argue that this ontological stance of sociomateriality brings about epistemological problems. (Leonardi and Barley, 2010; Leonardi, 2013; Mutch, 2013; Tuncalp, 2016). The conflation of the social and the material into the same ontological whole makes it difficult to analyze the contribution of these two phenomena in sociomaterial practices. Moreover, we became incapable of answering the question of how relations between the social and the material evolve if we embrace a unified ontology and deny the preexisting boundaries between them (Leonardi, 2013).

According to dualists, the distinction between the social and the material are more evident at the beginning of their interaction, and this explicit separateness dissolves over time (Leonardi and Barley, 2010). Therefore, deliberately selecting cases for implementation of new materials to social contexts is meaningful as such situations are revelatory for the researched phenomenon. According to Leonardi and Barley (2010),

There are tactically important epistemological reasons for studying implementations. ... [I]mplementation marks a time when an existing sociomaterial fabric is disturbed, offering researchers an opportunity to “see” more clearly how the social and the material become constitutively entangled (p. 34).

This camp of the debate, thus, adopts a critical realist perspective (Archer, 1995) by counting on temporality as an essential construct to study the relations between the social and the material. Taking temporality into consideration helps scholars to transcend the conflation in sociomateriality, enabling the mutual interaction between the social and the material.

Critical realist perspective was first introduced by Bhaskar (1978) and then, relying on this, the morphogenetic approach of Archer (1989; 1995) was presented as a solution of structure and agency debate in sociology. For critical realism, there are two underlying assumptions. First, it considers that the social world as comprised of different layers and ontologies of structures and agents. According to her, they are analytically separable and irreducible to one another. Second, there is a temporal relationship between the two, as these distinct ontologies predate or postdate each

other. Therefore, reciprocal interactions between structure and agency unfold over time.

Following this theoretical lens, scholars claiming dualism, distinguish the social and the material realms. They argue that taking a critical realist perspective supports researchers in developing an in-depth ontology, offering a way of studying stratified reality, instead of taking a flat ontology (Leonardi, 2013; Mutch, 2013).

In the review, 17 papers acknowledge separateness of the social and the material, 19 acknowledged the duality view and one paper mentioned both of these ontological stances. When I examine how materiality is theorized in ANT, MoP, and ToI and relate to these approaches as predecessors of two ontological views in sociomateriality, I can conclude that while ANT resonates with duality view of sociomateriality, MoP and ToI relate with separatist scrutiny. The unity of the social and the material, as argued in duality, describes quite similar ontology as in ANT. Both approaches advocate anti-essentialism by rejecting predefined boundaries, properties, and characteristics for both the social and the material. The ontological existence counts on the performativity of humans and materials. Accordingly, both of them claim that the relationship between the social and the material has no reciprocity. The social and the material appear as associations or assemblages.

On the other hand, MoP and ToI tend to consider the relation of the social and the material as interactions like the dualist view of sociomateriality. Whereas MoP argues an “inextricable entanglement” of humans and materials in practices; this argument is not related to the ontology of the relation but its epistemology. Furthermore, this group considers temporality in its epistemological analysis. While MoP uses temporality to describe episodic emergence of the material agency while performing the practice, ToI argues that interactions of the social and the material overlap and imbricate as time passes. Both of these viewpoints can be aligned with a critical realist view of sociomateriality that separates the social and the material, as well as the causal links according to their relations at different instants. Additionally, this group asserts the presence of inherent characteristics and highlights the asymmetry of the social and the material.

The distinction of sociomateriality perspectives, arising from abovementioned historical backgrounds, can be considered as the richness of this concept, providing

different opportunities to scholars (See Table 2.3). Examining sociomaterial practices with the lens of duality helps scholars to understand and explain a particular single case, as the reality relies on performativity. It is possible to narrate lengthy analyses with this view and even for the appearance or disappearance of a single actor (social or material) within a particular case. This allows duality to reach more idiosyncratic conclusions in the analysis. Accordingly, this view is more sensitive to examining unique/occasional, situated, and improvised sociomaterial actions.

These inferences are drawn on several studies that I identified in my structured literature review. For example, Riemer and Johnston (2017) employed duality while examining user experiences with software. As a result of their interviews, they reported the difficulty of comparing perceptions of the users, because of the diversity of use patterns. Moreover, Riemer and Johnston acknowledged the inseparability of IT artifact, IT task and IT user, the relation of which creates “the unique nature of IT in the users’ world in each case” (2017, p. 1070). Similar findings are revealed in the study of Curtis et al. (2017) that examines performativity and sociomateriality of tools that enable and constrain behaviors. They measured collective mindfulness among different teams and argued that the same tool is appropriated in different ways among experimental teams. Curtis et al. (2017) draw attention to the sociomateriality of the tool, which is a “joint product of the material agency of the technology and the human agency of the team” (p. 573). Another study scrutinized how multiple value propositions emerge from an online community in the healthcare field (Barett et al, 2016). In order to answer this question, the sociomaterial configurations comprised of online community strategy, digital platform, and different stakeholders are examined with in-depth longitudinal study, including interviews and observations. Findings show that a range of online community values emerged from the varying and particular engagement of actors that would be entirely different for the cases involving others besides these actors.

In the duality view of sociomateriality perspective, there is no room for granted properties that can be observed in parallel settings. Correspondingly, in order to examine situated and improvised moments, on which this view focuses; it is necessary to find a way to capture these particular moments in the empirical studies.

Table 2.3 : Opportunities and drawbacks of duality and dualism views of sociomateriality.

Approach	Methodology of studies	Approach to knowledge	Exploring details in the empirical setting	Explored phenomena	Exploring inherent differences	The revelatory moment for the empirical study	Studying power and politics
Duality	Appropriate for a single case with actual data	Ideographic	More suitable to identify the contribution of details to the sociomaterial practice	An assemblage of humans and materials at a particular time/context	Not prone to explore inherent characteristics or properties	No need to initiate the empirical study at a particular time or after a specific event.	Power is localized at an assemblage
Dualism	Appropriate for one or more cases with actual or historical data	Nomothetic	Some details can be faded and taken for granted	Evolution of relation between humans and materials by indicating possible causal links in time	Possible to examine inherent characteristics of humans and materials	Better to conduct the study encompassing an event distorting the sociomaterial fabric.	Power is distributed among actors at an assemblage

In line with this, the empirical studies of duality view in my structured review, mostly embrace observations as the methodology to collect data from single cases (e.g., Mazmanian et al, 2014; Hawkins, 2015; Barrett et al, 2016; Aroles and McLean, 2016; Glaser, 2017). The ones that could not perform observations reflect on this issue in their methodology section. For example, Symon and Pritchard (2015) mention that “concerns are expressed over the situated context of the interview, while observation may be privileged as uncontaminated” (p. 146).

There are also other research strategies such as experimental random sampling from a particular group and recording the results (e.g., Curtis et al, 2017) and participatory action research (e.g., Keevers and Sykes, 2016). Moreover, Hindmarsh and Llewellyn (2016) offer video recordings as the strategy for ethnomethodology that provides opportunities to capture real-time data and enable researchers to examine specific moments of action.

As the probed matter of fact is a social and material unity, there is no need to find out a particular event or time, such as implementation or a triggering event for a change, to conduct the study. In the structured review, on the other hand, there are studies examining the implementation of new technologies with the duality view (e.g., Cecez-Kecmanovic et al, 2014, Barrett et al, 2016; Glaser, 2017). Orlikowski argues that it is problematic to examine materiality at separate phases such as implementation and diffusion and its usage as considering materiality in individual cases causes “los[ing] sight of how every organizational practice is always bound with materiality” (2007, p. 1436). Accordingly, everyday relation of the social and the material is subject to studies with the duality view. For instance, Orlikowski and Scott (2008) give the example of Google searches as a daily sociomaterial practice that comprises of constant reconfigurations of the social and the material. Keevers and Sykes (2016) observed everyday practices such as project events, meetings, and informal exchanges in order to understand the affective relations of food and music with these practices. Orlikowski and Scott (2015) give an example of TripAdvisor as the algorithmic rating software that uses data from people’s everyday doings.

Furthermore, power and politics in duality view of sociomateriality can be studied as a phenomenon that is localized at some points in the assemblages. This is similar to the concept of translation in ANT, which denotes the translation of interests into particular actors. For example, Gond and Nyberg studied materiality of corporate

social responsibility and revealed how power is manifested as a materialized form of corporate social responsibility (2016). In this study, sources of power are considered as agencements comprised of elements like corporate social responsibility professionals, metrics, tools, and certificates. The term “agencement” is from the vocabulary of the ANT and is defined as assemblages of human and non-human actants that fit together Callon (2013). Likewise, by approaching to power relations similar to ANT, Orlikowski and Scott (2015) argued the sociomaterial configurations of businesses and users of businesses and the ranking algorithms “entails a set of complicated and dynamic power relations” (p. 208). Accordingly, it is safe to say that studies of power in the duality view of sociomateriality bring a similar consideration of power as in the ANT approach and locate it at a human – non-human assemblage or configuration or agencement. This theoretical lens views power as a focal phenomenon rather than a fact that is distributed among different actors in a relationship and tend to disregard resistive actions.

The dualist view of sociomateriality presents some differences arising from its ontological stance. The dualism allows scholars to carry out studies to understand and explore reasons for a phenomenon. Therefore, it is possible to examine the evolution of a fact and draw causal links that would propose some further studies. As the separatist view of sociomateriality provides room for searching inherent capacities, researchers can examine characteristics of humans (e.g., emotions, reflexivity, social structures) or properties of materials (e.g., functions, physicality, form) and their contribution to the sociomaterial practices.

In the structured literature review, I find out several studies exploring causal links of the examined phenomena and embrace the dualist view. This situation is different from the studies, embracing the duality of the social and the material that rely on unique engagements of the two. For instance, Venters et al. (2014) examine how digital coordination relates to the development and use of a technological project. They posit a dynamic relationship between human and material agency and a non-linear causality between the past, present, and future interactions of them. Accordingly, Venters et al. (2014) suggest that sociomaterial practices are “configured by the past, orient toward the future and emerge in the present (p. 931). Lamprou (2017) also explore causal links between effects and sociomaterial practices through a separatist lens. She argues that affective states of human agents condition the engagement with materials that result

with emergence and change of sociomaterial practices. Furthermore, Kaplan et al. (2016) show the reciprocal relationship between researchers and scientific instruments, both of which afford boundary spanning between unrelated disciplines in universities.

The nomothetic nature of the dualism view allows conducting studies in parallel settings. By this way, findings of the study could be more robust and considered as more generalizable. For example, Pentland et al. (2011) examine the appropriateness of the argument routines in organizations, leading to action patterns that are limited in number and endure over time and unique patterns of action, appearing because of exceptional inputs. They conducted a study with a sociomateriality perspective on invoice processing routines that are supported by information systems in four different organizations. While they refer to Orlikowski (2007), who employs a duality view of sociomateriality, Pentland et al. (2011)'s consideration of sociomateriality is a dualist view, as they consider the relations of the invoice processing software with the organization staff to represent commonalities, such as the assumption that automation of the process through the software has "reduced variety" (p. 1378). This nomothetic view, by its nature, can hinder considering some very unique engagements of the social and the material in a single setting at a particular moment, because of the abstraction of these engagements to some extent. It also supports the comparative examinations that may help the scholars to identify and reveal neutralized hidden aspects of the researched phenomena.

Moreover, there are methodological attempts in order to render idiographic sociomateriality studies more generalizable, suitable to be conducted across multiple temporal and contextual settings without leaving a primacy and exogenous determination to neither the social nor the material. While such methodologies reach more generalizable results via a separatist view, they can also capture situated sociomaterial entanglements. For example, Gaskin et al. (2014) offer a mixed methodology that relies on organizational routines at three steps including (1) in-depth field study about routines and contextual data, (2) conducting interviews, observation and electronic data for compilation and (3) changing the configuration of sociomateriality and capturing the variations (Gaskin et al, 2014). This methodology considers some aspects of the configuration stable and some as a variable that requires a separatist sociomateriality view.

Dualist view of sociomaterial perspective also makes it feasible to conduct studies relying on historical data (e.g., documentation, interviews), which is not appropriate for the duality lens, as it considers the social and the material as a whole and requires to observe or somehow record the actual engagements. For example, Blagoev et al. (2018), examine sociomaterial entanglements of remembering, materiality, and the role of material objects in enabling, constraining, and orienting the organizational processes. The British Museum was selected as the empirical setting, and the evolution of digitization in the museum was studied. The researchers conducted a historical case study, where their primary data relies on empirical materials since from the early 1970s. Similarly, Bisel et al. (2016) used historical case method in order to examine sociomaterial resources used by institutional resistance leaders to influence institutions. The historical data was collected via interviews with the staff of an elite gymnastics' organization. Similarly, de Vaujany and Vaast (2014) shows how spatial practices relate to legitimacy claims of an organization. A historical organizational space, Paris Dauphine University, was selected to carry out the empirical study. The longitudinal data of the study were archival materials, dating back to 1950s.

With the dualist view, power can be studied as an emergent phenomenon during the interactions in the sociomaterial practices. In this view, power is not located at some stabilized assemblages; it is somewhat diffused among actions of different participants of the sociomaterial practices. So, dualism view of sociomateriality fits better to studying power and resistance among different actors in an empirical setting. For example, Eaton et al. (2015) examined how boundary resources appear and change over time, where the boundary resource refers to a theoretical device, comprising of software and regulations to manage relations between platform owner and application developer. The tension arises between two parties because of their differing goals that lead to the emergence and change of boundary resources. With this study, Eaton et al. (2015) highlighted the power distribution among service systems that renders said systems as contested assemblages. On the other hand, in another study, the founder of an elite gymnastics training organization resists against institutional forces and makes use of sociomaterial resources to carry out resistance at the organizational level (Bisel et al, 2016).

2.5 Sociomateriality Perspective in Studying Materiality

Reviewed throughout this chapter, sociomateriality perspective helps scholars to consider artifacts, materials, technologies, spaces, and places as not merely passive constructs remaining in the background, but also active constituents of organizing practices. Accordingly, it removes distinctions between the social and the material by equally treating them as parts of organizations (Leonardi, 2012b).

Moreover, sociomateriality perspective gives an alternative to scholars other than representational forms of research by foregrounding practices, situated actions, and performativity. Through this perspective, the contribution of everyday practices (Orlikowski, 2007), from peripheral ones (Keevers et al, 2012) to organizing can be studied. Researching everyday practices is essential to understand the micro-foundations of organizations, as well as social structures (Powell and Colyvas, 2008).

As I presented in this chapter, the diversity of views for sociomateriality, such as duality and dualism, provide different lenses to study materiality in the social. Moreover, these two different theoretical stances rely on the approaches ANT, MoP, and ToI, endowing a rich vocabulary to the sociomateriality perspective. Scholars can develop several viewpoints in their theoretical and empirical studies by using this vocabulary. However, there are also significant discrepancies between these approaches that need to be considered while using.

The search results summarized in the overview section of this chapter presents insights for possible future directions of sociomateriality perspective. As I identified in the review, non-digital things such as space, place, and other artifacts are not considered much, while being examined through the lens of sociomateriality. These materials are mostly left as certain items, constituting the neutral background. However, “organizing is bound up with the material forms and spaces through which humans act and interact” (Orlikowski, 2007, p. 1435). For example, Balogun et al. (2014, p. 176) argued that strategizing covers sociomaterial practices including “whiteboards, flipcharts, post-it notes, agendas and indeed the spatial and material arrangements of the rooms and places.” Similarly, relying on works of Lefebvre (1974), regarding the production spaces in the organizations, space can be studied with its performative aspects that take part in organizing activities (e.g., Beyes and Steyaert, 2011).

On the other hand, links between micro-level sociomaterial practices and macro-social structures appear as an under-examined area of research. For example, when I examined the 46 articles in this review, I could find only four articles mentioning or related to institutions. While these studies indicate relations between social structures and sociomaterial practices, we do not know much about the dynamics of these processes (Hultin and Mähring, 2014). Researching the sociomaterial lens could enrich the field of social sciences by revealing the role of materiality in micro-macro relationships.

Another possible subject for future research could be examining power and politics in the studies of sociomateriality. Six of the 46 articles touch on this topic through mentioning power relations configured by materiality, constitution and mobilization of power with materiality and different forms of resistance emerge through materiality. However, our understanding can be improved through exploring mechanisms underlying these processes. For example, sociomateriality perspective can be used to understand and explain both soft and coercive forms of power. While materials have symbolic and value-laden being that could exercise manipulative or disciplinary power (Lawrence et al, 2001; Lawrence, 2008; Fleming and Spicer, 2014), there are also physical forms of power that are constituted by materiality (Latour, 1991). Such studies on sociomateriality can contribute to the extant literature on social sciences.



3. CASE STUDY 1: HIGHER EDUCATION

3.1 Overview

How do power and actorhood in organizations attend to the maintenance and change of institutions? Institutional theory has been traditionally considered as an actor-free explanation of social stability and was relatively silent on the institutional change until the introduction of the concept of the institutional entrepreneur (DiMaggio, 1988). Institutional entrepreneurs are actors who leverage their resources to construct or transform institutions (Maguire et al, 2004). For instance, Battilana et al. (2009) have reviewed the literature on institutional entrepreneurship and proposed a process model, describing different phases from the emergence of institutional entrepreneurs to their implementation of change. Later, institutional work perspective has been put forward as a critical concept to describe the purposive action of institutional entrepreneurs “aimed at creating, maintaining and disrupting institutions” (Lawrence and Suddaby, 2006, p. 215).

Extant literature has conceptualized institutional entrepreneurs mostly as collectives, such as professional bodies, associations, business elites, networks, and social movements (Hardy and Maguire, 2008; Scott, 2008). On the other hand, social movements, as a distinct perspective of social inquiry, represent a significant opportunity to extend institutional entrepreneurship, as both perspectives that share views on embedded agency and how new institutions are created (Schneiberg and Lounsbury, 2008). However, while institutional entrepreneurship focuses on specific actors, the literature on social movements places greater emphasis on collectives and macro-level struggles (Battilana et al, 2009).

Institutional entrepreneurs, both individuals, and collectives, do their work through discursive actions in micro-political struggles mostly by framing their vision, description, and purposes to build social support among people to change and reconstruct their respective fields (e.g., Fligstein and McAdam, 2012; Lounsbury et al, 2003; Rao et al, 2003). For example, a movement of chefs reframed their role and

crafted an institutional change toward nouvelle cuisine (Rao et al, 2003). Similarly, art houses focusing on contemporary Indian paintings, are reframing Indian art as “modern” to institutionalize a new market category (Khaire and Wadhwani, 2010). During such struggles, groups dynamically create their collective action frames and challenge each other’s framings until one particular group wins the framing contest, and a shared understanding of reality is generally diffused (Benford and Snow, 2000; Rao and Kenney, 2008).

Political contest and debates between prevailing and emerging actors involve great power struggles, possibly resulting in the victory of one of the competing sides, thereby allowing the winner to extend its logic in the specific field. Such actors purposefully use discourses that attempt to shape the relevant institutions to gain legitimacy for their actions. These attempts also have the potential to realize those actors’ interests. Discourses, enmeshed with the practice of power (Foucault, 1977), are essential to understand the practices of these institutional entrepreneurs (Clegg et al, 2006).

Discursive tactics and action framing are studied extensively in the extant literature (e.g., Misangyi et al, 2008; Rao et al, 2000; Snow and Benford, 1992). Action frames have three types; diagnostic, prognostic, and motivational (Marullo et al, 1996; Snow and Benford, 1988). Discursive framing by various actors has also been studied extensively. For example, in a remarkable review of framing processes and social movements, Benford and Snow (2000) studied framing processes and social movements. They argued that framing is central to “understanding the character and course of social movements” (p. 611), linking framing processes to other processes and outcomes of these movements. On the other hand, Fligstein and McAdam (2011) argue that individual and collective actors in “strategic action fields” use framing to interpret the actions of others. According to their perspective, frames of incumbent actors comprise their view of the field, but challenger actors are expected to have oppositional perspectives. More recently, Werner and Cornelissen (2014) focus on the discursive tactics that are used to mobilize and align actors in an institutional field to support some institutional change and argued that embedded actors make use of “frame-shifting” and “frame blending” tactics to change the status quo, linking the micro and macro levels of analysis. However, how social movements, as institutional

entrepreneurs, employ different types of framing in their discursive repertoire for political contestation and power struggles still need further analysis.

In this empirical fieldwork, I examine framing types and spatial actions, used by collective actors participating in the maintenance and change of institutional order. These two collective actors namely assistants' solidarity movements can be considered as a part of student movements that emerged against Yüksek Öğretim Kurumu (YÖK) which is a regulatory body of the higher education, and organized protest campaigns within and out of several university campuses.

I analyzed extant framing types and have theorized additional categories of framing, based on their enmeshing with the micro-processes of institutionalization and power (Lawrence et al, 2001). Also considering the temporality of contestation, I have explored the types of frames that have been employed at particular stages of the struggle and what these stages are. In addition, I critically and comparatively examined spatial actions of two interrelated collective actors to develop a critical understanding of spatial action in physical and virtual organizational spaces. To that end, I have analyzed the framing and spatial action of research assistants' solidarity movements, at two leading Turkish universities; Istanbul Technical University (ITU) and Middle East Technical University (METU).

By analyzing different contexts and with different outcomes of the same struggle, my aim was to understand how framing repertoires may impact the development of a resistive identity and how enduring social movements enmesh their framing with power differently. Analyzing these mechanisms in a university, as a professional organization makes it more interesting, for professional organizations provide a more complex environment for institutional change and professional roles and identities actively participate or impede such attempts. Furthermore, both movements emerged shortly before the time of the Gezi protests in Turkey, where masses have taken the streets all around the country as the largest and the most prolonged anti-government protest in Turkish history. I also describe how the broader social context relates to the life of these social movements.

In addition to frame analysis, I have also analyzed the spatial actions of these movements. Considering place-space relationship, I also show how physical and virtual spaces are dynamically created, contested, and wound up, as power and

resistance are exercised. I specifically explore how places are collectively produced and used as contested sites in physical and virtual organizational spaces and relate with framing repertoire of the movements. Analyzing these cases, I question who gets placed where, when, and how, within and across organizational spaces to develop and sustain resistance in and around organizations. I focus on how spanning and crossing temporary spatial boundaries in organizational places impact the power struggle and how taking up organizational spaces relate to the existence and survival of a social movement (Panayiotou and Kafirir, 2011).

There is relatively little research on the spatial nature of resistance by organizational members. Courpasson et al. (2016) recently discussed the politics and the meaningfulness of resisting places and studied how middle managers devise strategies of resistance to decisions of senior management. They argue that appropriate places are “where the corporate power can be contested” (Taylor and Spicer, 2007), turning regular places into resisting places. Drawing on the ‘dwelling places’ (Casey, 1993; Iedema et al, 2012; Shortt, 2015) where specific and vital places are temporarily inhabited by the resisters for the development of creative strategies, they have focused on alternative and transgressive uses of organizational places. They show that these appropriate places do not provide minimized social control, but they also enable resisters to construct new meanings. Therefore, a resisting place may provide enjoyable conditions for a resisting task, instead of social isolation to imagine disobedience to ‘structural obligations’ (Turner, 1982). Following this line of inquiry, I examine how employees create and inhabit spaces to develop resistance. I mainly focus on specific conditions, under which resistance can be promoted, and meaning could be constructed, in offline and online spaces.

My contribution, in this chapter, is threefold. First, I develop a novel framework for power dynamics and temporality in framing. Second, I explain how social movements employ different framing tactics with different power processes as institutional entrepreneurs. Third and finally, I have implemented a hybrid ethnographic method and work with both online and offline data sources that show how the materiality of spatial contest relates to the framing repertoire of the social movements.

This chapter is organized into six sections. In the second section, I review the social movements and framing literature and discuss different conceptualizations of space, place, and why they matter in collective resistance. The broader research context is

presented in the third section. The methodology of my empirical fieldwork is described in the fourth section. The fifth section includes empirical fieldwork. Finally, in the last section, I discuss the results and conclude my arguments by suggesting routes for future research.

3.2 Social and Material Interactions: Discursive Framing and Spatial Tactics

3.2.1 Discursive framing

A social movement is “a network of informal interactions between a plurality of individuals, groups, and organizations, engaged in political or cultural conflict based on a collective identity” (Diani, 1992, p. 13). It is different from other “forms of collective action which are more structured and which take in the form of parties, interest groups or religious sects, as well as single protest events or ad hoc political coalitions” (Della Porta and Diani, 2006, p. 16). Therefore, social movements are different from other voluntary organizations or collectivities and have been vital agents in criticizing institutional assumptions (Offe, 1985), as they have an inclusive, open and fluid organization (Diani, 1992), striving for material and symbolic resources to achieve some greater good.

With symbolic and material objectives, analyzing the framing activities of social movements became a dominant approach after the early 1990s (Benford, 1997; Goodwin and Jasper, 1999). Frames are interpretative schemas that just explain and codify the world, thereby mobilizing potential participants, guiding their actions toward what is meaningful, legitimating their activities and organizing people’s experiences (Benford and Snow, 2000; Snow and Benford, 1992), especially when these resonate well with target audiences (Benford and Snow, 2000; Marullo et al, 1996). The frame concept originated in the psychology of communication studies (Goffman, 1974) to analyze how culture is implicated in social interactions. Frame analysis has further evolved into an empirical and analytical approach to understand how political and social problems are understood by different groups of people (Gamson, 1992). However, frames are not simply aggregate or average representations of collectivities; they integrate the results of multilateral negotiation processes and shared meanings (Benford and Snow, 2000; Snow and Benford, 1988; Snow et al, 1986).

A framing process has three general forms: diagnostic, prognostic, and motivational framing (Marullo et al, 1996; Snow and Benford, 1988). *Diagnostic framing* identifies a condition as problematic and requiring improvement. It is employed to discredit the conventional order, to establish the authority of the speaker, to vilify the adversary, and to establish responsibility. *Prognostic framing* prescribes solutions to the problem. It proposes a new order, forms of punishment and primacy of objectives, specifying a set of targets regarding the issue under focus. *Motivational framing* mobilizes the members toward implementing the solution and advances identity claims. Such frames, generating urgency, call their audience to action. There are also other types and classifications of framing in the literature. For example, there are hegemonic frames (Blum-Kulka and Liebes, 1993), injustice frames (Gamson et al, 1982), master frames (McAdam, 1994) and non-violence frames (Marullo et al, 1996). However, I have decided to classify frames as diagnostic, prognostic and motivational; not only because it is the most frequently employed classification, but also since it correlates directly with the different stages of institutional change: first creating the need for change; then maintaining an alternative argument, therefore disrupting the existing institutional order. Thus, I think this classification follows my intention of uncovering framing tactics of institutional entrepreneurs well, at different temporal stages of institutional change.

In addition to this classification, I have also devised an additional frame classification based on frames, enmeshing with the micro-processes of institutionalization and power, as I am interested in understanding how framing contests enacted by different social movements participate at different stages of power struggles. Based on Lawrence (2008), I have defined four framing categories as influencing frames, forcing frames, disciplining frames, and dominating frames. *Influencing frames* involve specific forms of language that promote a particular vision or action for others. These frames assume an episodic/agential power base and aim the decision-making or non-decision making of others, making them its subjects. This mechanism might be voluntary or manipulative. *Forcing frames*, on the one hand, have an episodic/agential power base, but involve a language that treats its audience as objects, trying to leave no legitimate decision-making capacity to behave otherwise. Similarly, *disciplining frames* have a systemic/social power base, such as law or social norms, justifying their claims from some external interpersonal reference, while still leaving a range of

alternative behaviors of others under surveillance, as well as a potential examination of that specific external reference. *Dominating frames* are also empowered from a systemic/social power base, claiming that there are no legitimate options of behaving, other than the suggested practice. In terms of temporality of the behavioral change, influencing and disciplining frames need more time to create the desired change (Lawrence, 2008; Lawrence et al, 2001). On the other hand, disciplining and dominating frames for the stability of outcomes are expected to create more enduring results (Lawrence et al, 2001); hence, a more persistent social movement.

To sum up, I agree with Benford and Snow (2000) and Snow (2004) about the existence of a gap in research studies that considers framing not only as a strategic but also as an ongoing, emergent, interactive and dynamic process. Thus, I contend that there is value in examining the micro-processes of institutionalization by which social movements construct their framing at different stages of their life cycle. I address this gap by exploring how frames are constructed and reconstructed about the power and temporality of social movements. I have simultaneously employed the two types of frame classifications described above to collectively analyze the observed frame types concerning their substantive content and power substance. In the next section, I review the literature on organizational spaces, as these contested fields relate to framings of the social movements.

3.2.2 Organizational spaces

Research on organizational spaces initially emerged from a Cartesian understanding where space was understood as necessarily material and static (Kornberger and Clegg, 2004). However, there has been a “spatial turn” (Beyes and Steyaert, 2011, p. 48; Taylor and Spicer, 2007) in organizational analysis, shifting my conceptualization of spaces towards changing and multiple social products (Dale and Burrell, 2007). The spatial turn has caused an increased emphasis on the lived experiences of its inhabitants (Beyes and Steyaert, 2012; Dale and Burrell, 2007).

The spatial analysis provides an understanding of how spaces participate in the construction, maintenance, and changes in communities and organizations by focusing on the lived experiences of its inhabitants. It provides a lens for focusing on how inequalities, power differences, and identities are inscribed, reproduced, challenged, or resisted through spaces. In this stream of research on organizational space, there is

an increased interest into practices, outcomes, power, and control (Kornberger and Clegg, 2004; Clegg and Kornberger, 2006; Peponis, 1985; Taylor and Spicer, 2007). However, little attention has been paid on how employees participate in these spaces or inhabit different places for resisting activities within organizations.

3.2.3 Organizational spaces as contested fields

For a long time, spaces had been understood as a passive environment of social relations, that is neutral, fixed, immobile and dead, rather than having an actual dimension (Taylor and Spicer, 2007). However, the spatial turn challenged this perspective, calling for a more active and contested understanding of space (Harvey, 1989; Smith, 1990; Soja, 1989; Massey, 1992; Pile, 1996). Lefebvre (1974) is especially central in understanding space beyond its physical boundaries, considering it as both shaping and shaped by dynamic social interactions. According to Lefebvre (1974), spaces are produced through the practices and experiences of subjects and drawing boundaries of space and crossing them are critical for both the production and maintenance of social order. Spaces contain contradictions; therefore, the occupation and appropriation of space may challenge or re-create hegemony in society. In this context, space is vital to understand relations and power. For example, Wapshott and Mallett (2011) considers 'home' and 'work' from this perspective and suggest that they should not be taken as pre-given, but rather looked at along with the dynamics of related practices and meanings that render them 'dominated' and 'appropriated.'

Various actors may also be actively and purposefully involved in the making, contestation, and redrawing of spatial boundaries of organizational and public spaces. For example, Weizman (2007)'s study on Israeli architecture in occupied Palestine after 1967 is especially interesting in defining the architecture and the use of spaces, not only as physical structures but also as "a conceptual way of understanding political issues as constructed realities." He illustrates that the control of space can render historical precedence, legal rulings, and even country borders obsolete, as in the case of Israeli territorial expansion. Heritage conservation and archaeology are providing materiality that is instrumental to the occupation. According to his view, the shape and the design of the conflict and the respective resistance turn into a three-dimensional, dynamic hologram, including above and below the land surface. As described in the case, Israel's control of Palestinian towns and roads transforms them according to

military purposes. Then, Israeli power extends and expands not only through politics, but also with precise spatial control of the occupied territories with settlements, monuments, and archaeological heritage.

Considering active contestation and spatial tactics, Munro and Jordan (2013) use Deleuze and Guattari (1988)'s idea of smooth and striated space to analyze the spatiality of the Edinburgh Festival Fringe. They discuss the spatial actions that artists employ to enact workspaces and create hybrid workspaces within public spaces, linking them to the politics of space, considering how these actors negotiate the use of public space with other users. Taking a processual perspective, they have found that "artists employ a distinctive set of spatial tactics" that "exploit ambiguities in the spatial boundaries of the existing urban landscape" to appropriate and socialize a hybrid workspace as 'smooth spaces.' Similarly, Gregson and Rose (2000) developed an alternative perspective on the performativity of space, based on the exact definition of Butler (1990; 1993a; 1993b) regarding performativity, rather than a theatrical/psychoanalytic account of performance. Taking Butler's key concerns into an entirely different context, they develop a performative understanding of spaces that considers complexity and instability of performances and the performer. Considering two polar cases of the community arts workers and projects in Edinburgh and the car-boot sales as alternative spaces of consumption, they argue that the performance of individual practices reproduces and subverts discourses, enables and disciplines subjects and intrinsically connects their performances through saturating them with power. They consider space "as brought into being through performances and as a performative articulation of power," insisting on the "complexity and uncertainty of performances and performed spaces." This research also belongs to this tradition, as in my cases, where I illustrate that spatial boundaries are contested, redrawn, and resettled with the power of university administrations and performance of respective social movements.

3.2.4 Social movements, resistance, and space

Social movements are collectivities that challenge authority systems and structures with some degree of organization and continuity, resisting change in such systems. They have some formal, informal, hierarchical or networked structure that is more continuous than a crowd or a protest group; however, they are also not institutionalized

or routinized (Melucci, 1989; Della Porta and Diani, 2006; Snow, 2004; McAdam et al, 2001). Therefore, resistance is central in studies of social movements, as they both involve some level of conflict and contradiction with existing authority schemes and their imposed/arbitrary changes (Hollander and Einwohner, 2004; Trom and Cefai, 2013). Considering conditions and processes of mobilization (Melucci, 1989; McAdam et al, 2001), opportunity structures (McAdam et al, 2001), actors and objects of change (Goodwin and Jasper, 2004; Snow, 2004), movement emergence (Melucci, 1989), symbolic action (Buechler, 1995) and the crises of capitalism (Della Porta, 2015), social movement studies establish an intimate relationship with institutional change and resistance.

Resistance necessarily involves some opposition involving direct or indirect action and intentionality (Hollander and Einwohner, 2004). Resistance involving direct action may mean the struggle to counter the hegemony of the ruling class, which is established through coercion and persuasion (Gramsci, 1971) or a movement against the social control imposed by a self-regulating market, creating conjured commodities of consumption (Polanyi, 1944). Resistance may also involve indirect action, escaping the authority with submerged/covert action, leading to “infrapolitic.” In this case, double meanings and anonymity shield and disguise the resisters (Scott, 1990). With a diffusive (Foucault 1998; 2007) understanding of power, indirect action may also target transforming power that is imbricate in everyday relationships (Cresswell, 2000; Rosol, 2014) or establish a counter-conduct (Foucault, 2007). As indirect actions for resistance are analyzed, tactics against strategies of power have called for spatial analysis, as these tactics necessarily imply a space that is inhabited by the others (de Certeau, 1984). “Counter-spaces” (Lefebvre, 1974) need to be created against “real” spaces, not only for the opposition but also for enabling other values and images of alternative possibilities.

Spatiality has been critical for social movements research (Tilly, 2003; Juris, 2008; Nicholls, 2009; Castells, 2012). From the Occupy movement (Shiffman et al, 2012) to Mediterranean (Fregonese, 2012) and Latin American movements (Zibechi, 2012), researchers emphasize spatial discourses and practices. For example, Nicholls (2009) argues that connections between activist places create a ‘social movement space’ affecting stability and survival of a social movement, determining “what activists can and cannot do during periods of intensive mobilization.” In this stream of research,

Miller (2000) initially emphasizes how geography and spatiality are critical in social movements research. Leitner et al. (2008) argue that in spatial contention, researchers have prioritized scale, place, and networks while suggesting how multiple spatialities and their interrelations needs to be understood better. Following this call, Nicholls et al. (2013) illustrate multiple spatialities created by the social movements through different spatial tactics and how particular spatialities become prominent in specific contexts, in their edited book of empirical case studies. In the final chapter of the book, Miller (2013) concludes that, rather than multiple spatialities, researchers should focus on how social movements emerge and survive with the emerging assemblages (e.g., McFarlane, 2009) of human and non-human actants, such as brochures, websites and material symbols, which are dispersed and relationally connected in online and offline spaces.

3.2.5 Offline, online and hybrid spaces

As the Internet becomes one of the dominant modes of global communication and interaction, one may easily claim that there is no urban space left that is unaffected by the online world. Almost every space and place have their online presence, as people use the Internet, take pictures, use their smartphones, as they are creating metadata, even without being aware of it. Furthermore, our very experience of urban spaces and our physical presence are affected by our online experiences. Therefore, I may easily claim that there is a duality of online and offline spaces. The relational ontology created by this duality leaves the only hybridity of spaces, while offline and online become different mediations of the same ontological existence. However, such an approach conflates online and offline spaces into the same whole, substantially reducing my analytical, as well as explanatory power.

However, online and offline spaces have very different affordances for different agents (Jones, 2003; Hutchby, 2001). As these spaces co-evolve with humans, they provide different action possibilities that are not only dependent on the psychological abilities or the socio-cultural settings of the specific individual(s) but also the latent capabilities regarding the particular type of the space involved. Therefore, I consider online and offline spaces as analytically and phenomenologically distinct ontologies. In order to create and maintain this distinction, I understand offline space as an opportunity for

co-location in real-time, whereas I define online space as a resource that constrains and enables co-presence of its participants (Beaulieu, 2010).

Defining offline and online spaces as an opportunity for co-location and a resource for co-presence respectively, expands the notion of space and time to alternative modes and mediations, covering online co-present interactions in the foreground equidistantly for different participants. However, it does not impose a closure to the spatial understanding, since it creates conditions, in which an online space can be constructed or identified in an online setting. It enables alternative modes of understanding for online space. Considering the online space as a resource, creating possibilities for co-presence, four types of online spaces are present in the extant literature: virtual, imagined, interaction spaces.

First of all, online space is necessarily a ‘virtual’ space, where it constitutes a networked environment with spaces based on nodes and their interrelations. This consideration is not independent of the understanding of physical and non-physical space configuration. However, “virtual space is open to constant sculpting and resculpting” (Ward, 1999, p. 97). Among the studies with virtual spaces, there are those, considering search spaces by online search engines (Skageby, 2009; Jawecki et al, 2011; Jayanti, 2010; Ward, 1999; Dwivedi, 2009), online sites including those with forums, discussion boards, newsgroups and social media (Skageby, 2011; Howard, 2002) as interconnected sets of sites as different forms of virtual spaces. For example, from an Actor-Network Theory perspective, Bruni (2005) considers its research field as an effect of a network, while shadowing software package as an actor. However, he does not consider that as an online space specific to technological artifacts, but consider all spaces as networks of actants.

Secondly, online spaces might be ‘imagined’ spaces, which are semantic spaces where different concepts/topics, symbols, and politics create different possibilities of co-presence. For example, while studying ‘imagined’ web-based communities in the online world, Rokka and Moisander (2009, p. 202) consider online space as symbolically ‘imagined’ space. According to them, online communities and artifacts are formed within a “constellation of cultural meanings, values, and artifacts. The sense of the community can be traced back” where “stories, images, and signifying practices” create endless possibilities for co-presence. Rokka and Moisander (2009) also consider online space as a participative space, because it enables “new forms of

dialogue...where consumers can participate in the construction of active consumer citizenship” (p. 199). As a particular type of imagined online space, languages effectively create imagined boundaries in the online space. Some researchers covering different languages use translations to move across the language space at different stages of their research. As a new strategy, Mkono (2012) used Google’s online translation function to cross language boundaries while collecting customer comments across the Internet.

Thirdly, online spaces might be ‘interaction’ spaces. While considering an online space, the nature of interactions also creates different online opportunities for co-presence with links, activities, communities, and worlds. For example, Biddix and Park (2008) consider links between Internet sites to describe and analyze its interaction space, whereas Bruni (2005) considers interaction space as a characterized network of practices and activities, ‘whose confines are formed more by connections through objects and practices than by material boundaries.’

Given the high level of interactions they provide, online communities are very frequently studied as spaces of social interaction. For example, an online natural sustainability community (Belz and Baumbach, 2010), a Star Wars movie fan club (Fisher and Smith, 2011) or online chocolate spread ‘Nutella’ users’ online community can be studied as research fields on interaction spaces. As another example, studying myspace.com as a community, Dirksen et al. (2010) conclude that interactions between users and MySpace.com co-create value, positioning them both as producers and consumers on a web of interaction space.

About the importance of spatiality in an online environment, virtual worlds are another special-case (e.g., Tikkanen et al, 2009). Virtual worlds are computer-generated 3D environments. Such an environment has the specificity that they give the participant the feeling of “being there” (Kohler et al, 2011). In his study of the virtual world Second Life, Boellstorff (2008) conducts his research entirely through his avatar. The biography of this avatar on the back cover of his book illustrates a blurring between the virtual representation of the researcher, who conducted the study on-site, and the real researcher who has written the story. Virtual worlds also enable innovative co-creation with real-time and media-rich interactions (Kohler et al, 2011).

The above definitions and examples do not rule out the possibility of hybrid spaces (Halford, 2005; Wapshott and Mallett, 2011). Online spaces can also be considered with its 'physical' dimension. Although online spaces are necessarily non-physical, it may be considered about a respective physical space. As it is discussed extensively in Burrell (2009), online space may be considered as a disconnected and independent environment on its own (e.g., Cova and Pace, 2006) or it may be considered as a connected, networked and hybridized environment with the physical space through nodes and connections (e.g., Fisher and Smith, 2011; Fielding, 2010; Rokka and Moisander, 2009). Considering online and offline spaces as connected creates a combined and intertwined understanding of what is online and what is physical in terms of spatial possibilities (Howard, 2002). Ward (1999) describes the online space of a community to be necessarily intertwined with its physical space as "...the physical, despite its apparent morphing with the virtual, continues to place restrictions on people's lives, and so a community that exists entirely in text-based virtual space is implausible" (p. 96).

It is important to note that the concept has been initially used in the literature for a different purpose to identify the 'spatial blurring' (Fleming and Spicer, 2004) of the traditional organizational boundaries, opening them up for continuous negotiation between organizational participants and non-participants. Alternatively, Wapshott and Mallett (2011) use hybridism to explain the boundary spanning to explain the multi-purpose mobilization of the spatiality of work and home. However, distancing from such literature, I entirely use the hybrid to correspond the hybridism between online and offline spaces.

In this empirical fieldwork, while considering transgression tactics as a spatial repertoire of assistant movements, I consider space and spatiality as a concept that is beyond the physical places and boundaries. Following Taylor and Spicer (2007), I consider space under three groups: 'space as distance', 'space as the materialization of power relations' and 'space as lived experience.' While 'space as distance' concerns the proximity between two points and refers to the physical understanding of space, 'space as the materialization of power relations' considers the meanings of spaces that reflect power relations such as domination, discipline, and control. 'Space as lived experience', on the other hand, focuses on how spaces produce and manifest in the experiences of its inhabitants, where symbolic and aesthetic dimensions of space come

into prominence. At this point, my observations of space and spatiality may fall into one of these categories or some combination of them. For example, the materialization of power relations and lived experiences can be entwined together. They can also be combined with the physical dimension differently.

3.3 Research Context

Assistants' solidarity movements have emerged in different universities in Turkey as separate and independent movements within a brief time frame, as the government changed the employment scheme of assistants at universities. In this empirical fieldwork, I focus on two of those movements taking place at two leading Turkish universities, namely Istanbul Technical University and Middle East Technical University. The movements at these universities are, by far, the largest and the most active, compared to other similar movements. Both ITU and METU are public universities that are commonly associated with engineering and architectural education. While both are also technical universities, they have very different histories, representing diverse social settings for the analysis.

ITU's history dates back to more than 240 years. It was established in 1773 as the Imperial School of Naval Engineering of the Ottoman Empire. In 1928, it evolved into a modern university under the influence of early German technical universities. Currently, ITU offers both graduate and postgraduate programs in diverse fields of engineering and architecture. It hosts more than 30,000 students and employs 1,130 faculty members and 1,300 research assistants across its five campuses (in 13 faculties and six research institutes) located in the country's largest urban area, Istanbul. METU, on the other hand, was founded in 1956 with strong direct and indirect support of the American government. It has one central campus, located in Ankara (the country's capital) and it currently holds a student population of nearly 23,000. METU currently employs 750 faculty members and 1,400 research assistants (in five faculties and five graduate schools).

Traditionally, ITU graduates have assumed leading public administrative and political positions. For instance, since 1980, three prime ministers of Turkey, who identified themselves with the right-wing of the political spectrum, have been graduates and faculty members of ITU. However, there have also been strong leftist movements at ITU. METU, on the other hand, is well known for its pro-revolutionary identity and a

strong on-campus presence of leftist political movements. Similar to ITU, METU has also had several graduates, who became prominent politicians and government officials. However, with its remarkable political symbol, “Revolution” Stadium and with frequent protests and boycotts against the ruling elite, METU’s single campus is much more politicized, when compared to all five ITU campuses.

Regarding the broader social context, it is essential to grasp the contemporary political environment of Turkey to have a comprehensive understanding of the institutional change and resistance. At the time this research was conducted, the Justice and Development Party (AKP), which had defined itself as a conservative democratic party (Öncü, 2013), has shaped the country’s political environment for nearly 15 years. AKP governments have undertaken neoliberal and partly conservative (“Islamic”) changes, mostly guided by the World Bank’s economic recommendations. These have been strongly endorsed by local political circles across the world (Öncü, 2013). Despite the implied reformism in the central political discourse, some of the institutional changes under the AKP government have been causing tensions, mostly amongst the secular part of the population. However, up to the Gezi Revolt in 2013, the AKP’s political transformation never faced significant, widespread opposition (Öncü, 2013).

At the end of May 2013, a group of protestors, resisting the construction of a shopping mall in the small “Gezi” park, located in central Istanbul, occupied the former to block the removal of trees by construction workers. Direct and harsh police intervention against the protestors set off the Gezi Park events which, began in Istanbul and quickly spread throughout the 79 districts of Turkey. While the unrest had arisen over the protection of a small park, it evolved into an uprising against the current political regime. Protests lasted for nearly one month, especially in the big cities of Turkey such as Istanbul, Ankara, and Izmir. However, even smaller cities in Turkey with no history of political unrest experienced major political protests at this point. Distinct political identities, social groups, and movements, such as socialists, revolutionary Marxists, Kurdish parties, LGBTQI, as well as anti-capitalist Muslims (Öncü, 2013), all took part in these protests.

The assistants’ solidarity movement emerged and grew in this socio-political context. Moreover, the movement at ITU not only established relations with the Gezi resistance but also became one of the central groups of the protests. For example, at one of the ITU campuses, the Taşkışla campus close to the Gezi Park, one of the members of the

movement, Ceyda Sungur, an assistant at the ITU Architecture Faculty, became a central icon of the Gezi resistance. Furthermore, the ITU central administration's decision to close Taşkışla campus to Gezi protesters and ITU students, trying to escape the police intervention became one of the main issues of the ITU Assistants' Solidarity movement.

3.4 Methodology

In this empirical fieldwork, I have developed two qualitatively interrelated cases (Yin, 1994), based on online and conventional ethnographic fieldwork on the assistants' solidarity movements in two different universities, to develop an understanding of the meso-level dynamics (McAdam, 2003) with their contextual richness and complexity (Dyer and Wilkins, 1991). I utilized participant observation (Jorgensen, 1989) to examine the assistants' solidarity movements at both universities for eight months, between October 2013 and May 2014.

Examining these movements by hybridizing both online and offline ethnographic methods is a recommended research practice, as online media increase their importance in our daily life (Tunçalp and Lê, 2014). Online secondary data, such as announcements, e-mail bulletins, blog sites, and textual data generated in social media, has been the primary source of my empirical material. Textual field data from online sources, such as blog and social media posts and e-mail bulletins, were manually subjected to a content analysis against the categories of framing, described or developed previously. I performed the content analysis by reading and classifying the written materials. Controlling the classification and coding generated, I compared the coded texts against the definitions of the framing categories.

I also supplemented the field data with offline ethnographic material, in-depth interviews, and focus groups on gaining a better understanding of the foundational histories, internal dynamics, and external links of these movements. I have interviewed participating and non-participating assistants at both universities, as well as the members of the university administration and faculty members. I did snowball sampling and asked respondents to introduce me to other respondents. In order to ensure reliability, I started snowball sampling of multiple members in every respondent group. While this does not create a fully representative random sample, I find this sampling adequate, as I reached a comprehensive understanding, throughout

this process until a satisfactory level of empirical saturation was reached. I consider this an appropriate sampling strategy, as the movements in both groups are very fluid and dynamic. Thus, it was impossible to create an entirely random sampling frame. In total, I conducted 24 interviews as part of the ethnographic process. All interviews were digitally recorded by permission and transcribed verbatim. Detailed notes that also contained short quotes from respondents were taken during interviews directly after the interview. I have also kept an ethnographic diary of extensive handwritten field notes during the empirical fieldwork, covering events, interactions, observations, and discussions.

During the data collection, the emergence and the early stages of these movements had also been questioned retrospectively. All of my questions were asked to multiple respondents. Answers were validated using other interviews and secondary data to triangulate interview accounts for construct validity (Yin, 1994). Since both movements have attempted to gain the support of the public opinion, I was able to assemble an extensive archive of multimedia data, including blog posts, newsletters, letters to members of the respective universities, flyers, forum discussions and online videos of protests.

My participation in these movements was not covert. All respondents were openly informed about my identity and the objectives of this research, before gaining access to these groups and at the beginning of every interview or group meeting. Participant observations in meetings, protests, and forums of these movements were done both online and offline, while longitudinal data collection strategy aided me in developing insights into dialectic mechanisms of power and resistance.

My data sources were the member interviews, Internet sites, and social media profiles of these movements; however, I did not become fully embedded into these movements, in order to keep the distance and thus be able to objectively analyze the collected data both from an insider and outsider perspective. While I have taken an interpretive perspective of inquiry from the inside, I have also tried to maintain an outside view of the phenomena, keeping myself at the boundary of the research field.

My experience of these movements and my social position have necessarily influenced my analysis of the data. While I have carefully crafted the methods to meet methodological reflexivity up to a certain point, trying to establish reliability, validity,

and repeatability, my formative social location, relations, and dispositions as a graduate student at one of these universities, have influenced my accounts and understanding of these movements. In order to compensate for this and develop epistemic reflexivity (Johnson and Duberley, 2003), I have discussed the assumptions, values, and preferences inherent in my social position continuously and throughout the project, to discover the underlying social reality. As the meanings of events, stories and practices can only be understood about “frames of meaning” (Giddens, 1993, p. 149) through the double hermeneutics process, I tried to involve my self-understanding of science through science. As a theoretically reflexive individual (Giddens, 1991), my accounts also construct the self-image of my social world and myself.

My participant observation of the focal phenomena necessarily created reflexive situations for the research subjects and affected the subjects’ perceptions of the phenomena and their role in it. The reflexive process necessarily helps them question their pre-assumptions of the movements themselves, unavoidably influencing movements and challenging my assumptions about movements and my subjectivity. While the methodology I adopted in here is not action research, this circularity creates a “participatory action research” situation in the research (McIntyre, 2008). Through the research process, I have taken both subject and object roles, bringing the discussion of self-reflexivity (Johnson and Duberley, 2003) to my agenda, leading me to question who “I” am and who “they” are in my accounts and to understand where researcher self and research subjects become intertwined. With inherently circular knowledge claims (Giddens, 1993), I do not assert perfect objectivity or seek for entirely subjective evaluations; instead, I have tried to be “critically intersubjective” (Fay, 1996), taking a fallibilist, perspectivist epistemology in trying to develop an understanding of my focal phenomena “both within and across traditions of inquiry” (Martin and Sugarman, 1999, p. 63).

3.5 Empirical Fieldwork

3.5.1 The emergence of the assistants' solidarity movements

Turkish higher education underwent a significant change in the early 1980s with the military coup that introduced large-scale changes in the field. It imposed a highly centralized regime with a strong regulatory body called the Council of Higher Education (Yüksek Öğretim Kurumu - YÖK). YÖK imposed “a range of strict

requirements that would force sameness and introducing aspirations for greater marketization” (Üsdiken et al, 2013, p. 191). Since 1980, YÖK regime has introduced a system that is mostly inspired by an American university model and the structure of METU, to become a reference for all Turkish universities. First of all, it removed the historically dual structure in Turkish Higher education by converting all academies into universities. Following a continental European Model, departments in Turkish universities have been historically organized in separate faculties with a variety of different types of naming. After the YÖK regime, different departments are collected together as large faculties; for example, the Department of Management and the Department of Economics became parts of the Faculty of Economics and Administrative Sciences, and Mechanical Engineering and Civil Engineering departments were joined together as the Faculty of Engineering. Also, all department and faculty names have been standardized nation-wide, except ITU departments and faculties. Due to its historical significance, traditional department names and faculty structures have remained intact only at ITU (Üsdiken, 2004).

Over time, METU became a de facto organizational form, functioning as an ideal model for other universities. While other universities began changing their organizational models and nomenclature to the one based on that of METU, ITU remained distinct by keeping its strong department- centered faculties tradition (Üsdiken et al, 2013). For example, as opposed to the situation at other Turkish universities, management is not just a faculty department, but also a stand-alone faculty preferably. Similarly, engineering education is not organized under different departments within a single faculty. There are independent faculties such as the Faculty of Civil Engineering and the Faculty of Mechanical Engineering (Üsdiken et al, 2013). However, ITU has also undergone its evolution towards a more managerialized university (Erden Bayazıt, 2005).

One of the more recent changes toward marketization has manifested itself in the way that assistants are employed in universities; moving from permanent employment to temporary contracts. Regardless of their contract type, all assistants are responsible from assisting in teaching, research, and experiments, as well as “additionally performing other relevant tasks that are ordered by authorized other units” (Higher Education Law, 1981). The permanent staff contract is called “33a,” named after the clause of the respective law that designates this type of contract. Similarly, “50d”

corresponds to a temporary employment contract for graduate students with the same set of responsibilities that needs to be reviewed and renewed annually. While “33a” assistants have some employment guarantee at the same university after completing their PhDs, “50d”s do not have such rights, and universities are being discouraged from hiring their own “50d”s, from avoiding “academic inbreeding” (Horta et al, 2010).

In June 2012, drawing on earlier legislation passed by the Turkish parliament in February 2011 defining the maximum graduation period for Master’s as three years and for PhDs as six years, YÖK ordered all universities to dismiss all those “50d” assistants, who are unable to complete their graduate degrees within the designated period, for they no longer had the right to hold their student status. The Education and Science Workers’ Union (Eğitim-Sen) took this decree to the higher administrative court and received a court interpretation that may help university administrations to avoid implementing the YÖK decree. However, ITU and METU administrations had already dismissed a large number of research assistants, following the initial receipt of the decree. Since the average duration of Master’s and Ph.D. degrees is claimed to take longer for assistants due to their workloads, this policy created significant resistance and strong rejection amongst research assistants. Thus, the Assistants’ Solidarity movement flourished first at ITU, and then at METU in 2012.

While both ITU and METU groups were aware of and sometimes even communicate with, each other, they operated as independent entities with their decision-making procedures and agenda-setting. Both showed network organizing (Juris, 2004) with no defined hierarchical position or division of responsibility. A willing member took each task, and there was no central apparatus to make decisions or assign roles and responsibilities to different members. Issues were discussed, and decisions were made by consensus in regular meetings with the agreement of whoever was present at a particular meeting. The preference was to avoid voting, but instead, they discussed and tried to convince others regarding planned actions. However, this strategy also made decision-making a lengthy process and sometimes caused some members to avoid showing disagreement or speaking-up for their arguments in order to avoid lengthy discussions. In some cases, it had also caused some members to leave the movement, as it was hard to disagree. Similarly, when there was an internal debate, it took too long to solve an open issue. While their name, main focus, and governance/decision-

making structure was the same, both movements had a different path with different framing tactics, contextual relations, and their evolution as a result.

3.5.2 Milestones of emergence, growth, maturity, and decay

The ITU movement issued a press release in September 2012 and stated its demands. Their main stipulation was to remove all time limitations regarding student status for all assistants. They also officially sent their request to the Rectorate, which marked the beginning of the movement. Following this, the protests began in various ITU campuses. The movement started organizing forum meetings in front of the main cafeteria and marches to the Rectorate building. As members pointed out, the first events were designed to grab the attention of the university community, popularize the movement and to make people notice of the assistants' tenure problems.

At the emergence stage, the ITU movement mostly used forcing and disciplining frames to point out problematic situations arising from the new YÖK order and practices of the university administration. For example, in one of their posts, they try to coerce the university administration, regarding the solution of the problem:

... to declare that we are pursuing our demands which are supported by hundreds of signatures and intend to provide support to our friends and until they return to their jobs, we will not leave our university (Asistan Dayanışması, 2012a).

They also refer to disciplining frames to provide their actions with greater legitimacy than that of the higher-order institutions. Mainly they blame university administration because of its “unlawful” practices:

We are calling on the ITU Rectorate to give up the illegal practices which are a trial of the new YÖK decree that will be on the agenda of the Turkish parliament on the following days ... (Asistan Dayanışması, 2012b).

When the assistant dismissals had started in Mechanical Engineering Faculty on Gümüşsuyu campus, the movement has organized another march from the Taksim Square to Gümüşsuyu campus. After a short festival including a small concert and some theatrical performances, the group stayed on campus during the night, showing signs of occupation and ownership of Gümüşsuyu campus, as one respondent describes:

The first assistant was fired from the Faculty of Mechanical Engineering. Then we organized our protest to show we are not leaving our university, and because of that, we stayed and temporarily occupied the building for the whole night (Interview, ITU).

As the Taksim Square is the main square of Istanbul, attracting all political rallies and marches, this event has linked the ITU Assistants' Solidarity with the larger space of political and social disputes. This was also the first protest that took part in the mainstream media in Turkey, bringing the movement to the countrywide news.

As the struggle unfolds, it also has taken part in the virtual space. The Facebook account of the university started posting and sharing explanations regarding new legislation and rules. The members of the movement responded by writing their objections, interpretations, and comments under this post on Facebook. However, these comments were deleted by the university administration, shortly after. The movement announced this situation from its profile page to respond: "You cannot be part of a solution by deleting our comments from the official site of ITU."

When the struggle jumped to online space, the movement started publishing online newsletters and e-mail announcements to every member of the university with e-mail messages, using e-mail groups and e-mail addresses. The university responded by banning the senders' addresses from e-mail servers and not allowing these addresses to send e-mails to the university servers again. Then, the movement started sending each announcement with a different address or the same announcement through multiple addresses to avoid the server ban. Space occupation and transgression also happen on the virtual space between the parties, while trying to resist and respond to each other's actions (For a chronological span of resistance activities in ITU, see Figure 3.1).

The METU movement emerged after that of ITUs. At METU, academics have an NGO called Instructors' Association (Öğretim Elemanları Derneği - ÖED). ÖED holds regular meetings with a working agenda with its active members every month. The assistants' employment security became a part of the meeting agenda of ÖED at the October 2012 meeting. Assistants at that meeting acknowledged their solidarity with the ITU movement and suggested establishing a similar group at METU to "come together to defend assistants' rights." While there are different and active organizations that are supporting assistants' rights on campus, such as ÖED and Eğitim-Sen, they are not entirely focused on these issues, as they do not directly represent assistants.

Thus, a large group of METU assistants held several vis-à-vis meetings and e-mail discussions, which led them to decide to start resistance at METU in December 2012.

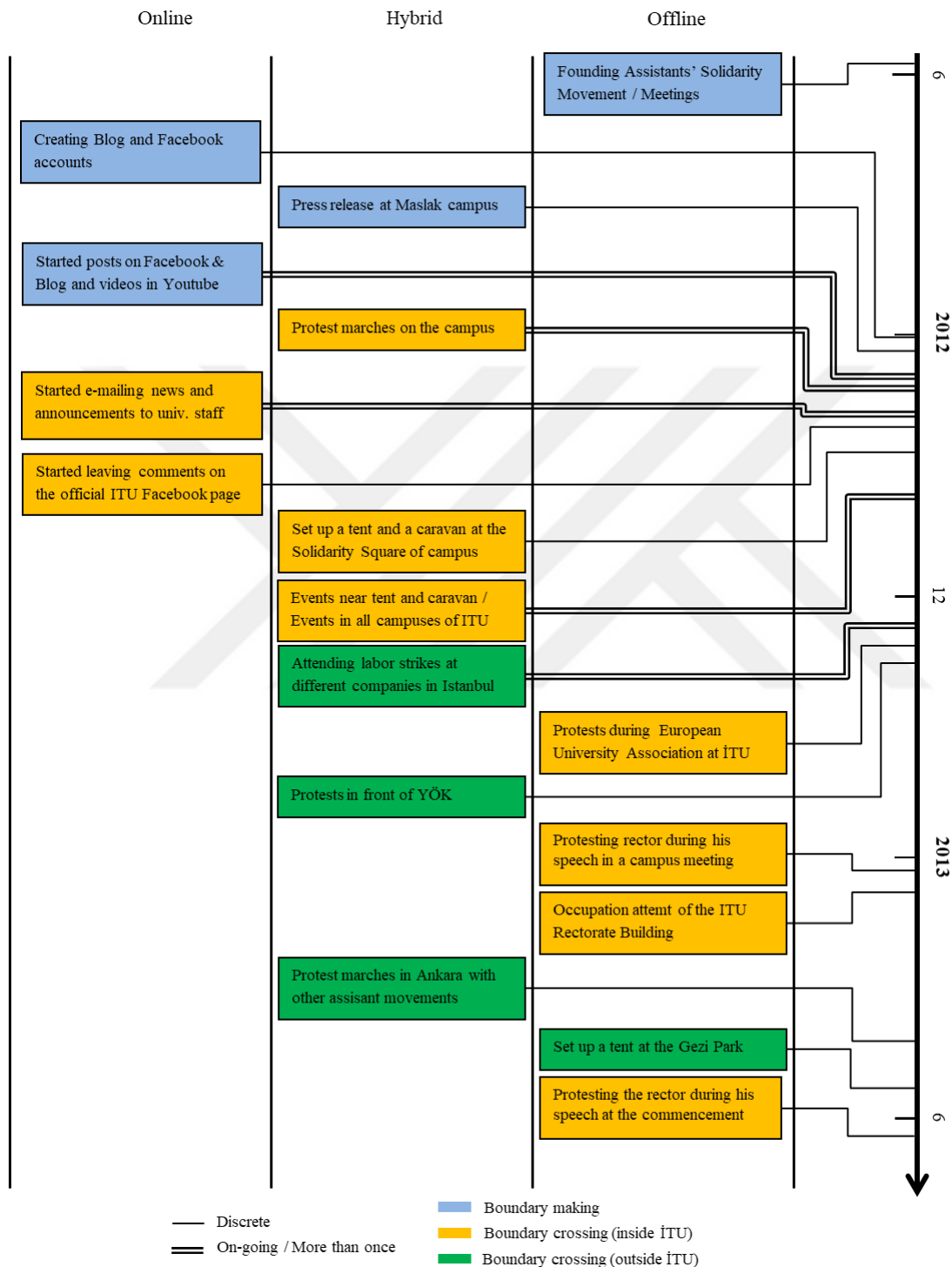


Figure 3.1 : The Assistants' Solidarity Movement in ITU.

While both movements mainly demanded the removal of the employment time limits and advocate the protection of assistants' rights, the problems of the METU movement

are somewhat different from those at ITU. Without any resistance for several years, the METU administration had already been enforcing shorter time limits to Master's and Ph.D. education that imposed more substantial requirements than those of ITU and YÖK. While ITU assistants were demanding that the YÖK decree be revoked, the METU movement was requesting the university administration to loosen the special sanctions, imposed without an external central force. As one interviewee explained:

The Assistants' Solidarity movement at ITU reminded us that practices that we became used to at METU are not normal ... our tenure of office is not finished, we are fired by the university, but most of the people perceive this as the end of duty and considered it to be normal (Interview, METU).

While offering solutions, both movements used forcing frames and mostly preferred dictating their demands by objectifying the other side. As an example, "... the University Senate's decisions defining assistants' working period at METU should be repealed immediately" (Anonymous, 2013a).

Like the ITU movement, METU assistants also established a Facebook group – an official blog site for communication. A comparison of the Facebook pages of ITU and METU movements reveal that ITU assistants and their followers are more active on the Internet than METU since the number of "Likes" and "Shares" is significantly higher (For a chronological span of resistance activities in METU, see Figure 3.2).

Just like ITU, METU assistants also sent e-mail messages to people on the campus and held meetings to popularize the movement. However, they could not spread the movement to the engineering faculty, which is located in the southern part of campus. Most of the attendants of the meetings were from humanities, social sciences, and architecture faculties. Respondents argue that the apolitical nature of engineering students and the physical distance between both sides of the campus are two main reasons for the non-diffusion of the Assistants Solidarity to Engineering faculty, which accounts more than half of the METU. As described by one assistant:

Employment security is not an important issue for an engineering student in METU. They can easily find a job after completing their master or doctorate degrees. After the military coup in 1980, METU engineering departments became apolitical. They no longer want to attend any political groups (Interview, METU).

While being relatively apolitical might hold, the distance argument is compelling because the size of the campus is not extremely big. However, it seems that assistants

experience a spatial distance between different domains of science on the METU campus.

For a long time, the movement in METU could not display much activity, as more than half of the campus, namely the engineering departments, were reluctant to participate in the movement. The protest march, which was planned to be the first activity of the movement, was canceled because of another protest on METU campus. On 18 December 2012, the prime minister of Turkey came to METU campus for the ceremonies regarding the launch of a Turkish space satellite. He has been heavily protested on METU campus, and the police used extreme measures, causing clashes between the student groups of the METU campus, which took part in all TV channels and newspapers for a long time. The event became a major crisis for the university, as the Prime Minister and the METU Rector had a controversial debate on media. As a result of this incident, the movement had decided to postpone their protest march, as there was a broader political dispute going on at the campus and the METU Rectorate gave the impression of siding with the students against the government intervention. One of the interviewees explained it as “we decided not to perform our protest march in order to not worsen the situation of our university during those difficult days. It also most probably would not attract much of attention” (Interview, METU).

After the first march, two other protest marches were also canceled in METU. The second one was after the dismissal of one of the assistants. The movement organized a protest march in the name of this assistant. However, the assistant who has been fired did not want his name to be used during the protests. The third march was planned when METU Rectorate refused to give an extended leave of absence to one of the assistants to study abroad. However, when the march was organized, the Rectorate renegotiated the issue with that assistant, and they came to an agreement. One interviewee mentioned these two situations as “we cannot find an agent to trigger the protests. The Rectorate was following each cause we might pursue”. (Interview, METU).

The ITU movement supported their arguments with dominating frames by mentioning previous court decisions regarding the dismissed assistants. For example, “we are demanding [the ITU administration] not to violate the legal rights of faculty assistants regarding the 33a designation” (Asistan Dayanışması, 2012c).

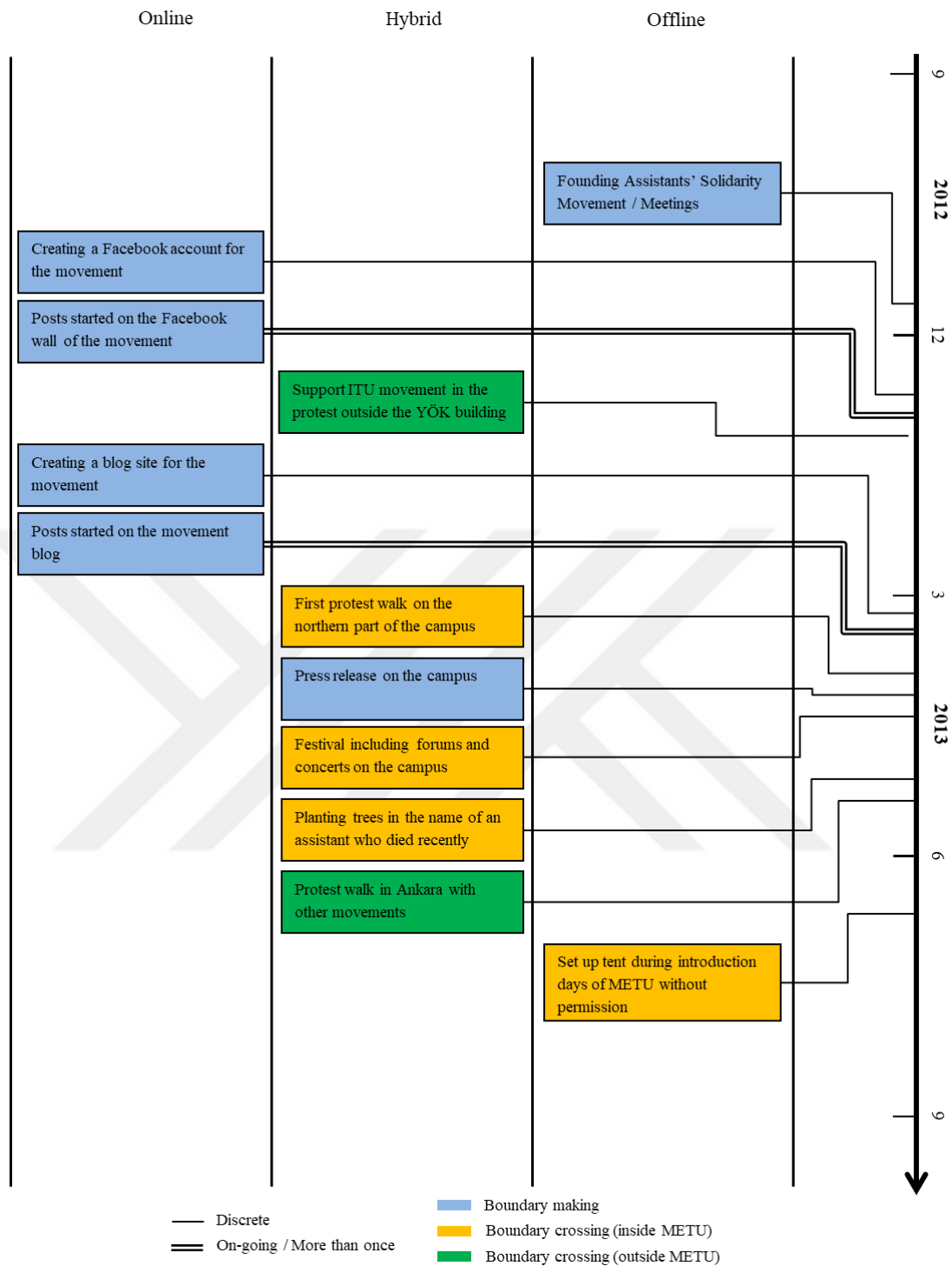


Figure 3.2 : The Assistants' Solidarity Movement in METU.

On the other hand, the METU movement used another episodic mechanism, influencing frames, to develop prognoses. For instance, “we demand all assistants, who complete their PhDs successfully and have departmental approvals, to have job security (according to the 33a clause of the current regulation) and all related criteria to be set in the form of objective and transparent processes” (Anonymous, 2013a).

After their emergence, both movements started disseminating their messages to promote their diagnosis of the problem and their suggested solution, while also trying to mobilize potential and existing members. Influencing frames are prevailing mechanisms to motivate these members, regardless of the life cycle stage. Both movements have tried to call and convince people to support their movement with similar announcements. Here are some examples from ITU and METU respectively “we are expecting everyone, whoever is worried about ITU’s current position to our activities” (Asistan Dayanışması, 2013), “... as METU assistants, we do not accept conditions worse than those YÖK decreed and expected your support for the struggle against these decisions ...” (Anonymous, 2013b).

At the end of the spring semester of 2013, the Gezi Park protests began in Istanbul and later spread across Turkey. The Assistants’ Solidarity movement in ITU also attended these protests and set up their tent near others in Gezi Park, becoming one of the central groups of the resistance and holding forum meetings at different parks in Istanbul. This way, they also promoted the message and the objectives of the movement outside the ITU campus. However, the Assistants’ Solidarity movement in METU did not attend to Gezi Park protests by using their name in Ankara or Istanbul. People in this movement attended such events individually or under other organizations. One of the interviewees explained it as “Most of the politically active members of the movement are already members of other political organizations. Because of that, they do not have enough energy to attend the protests on behalf of us” (Interview, METU).

Gezi protests also influenced everybody in the country, directly or indirectly. It also triggered protests at various events in different universities, such as graduation ceremonies. One of the respondents at ITU stated as

During those days, we thought about how we can protest the rector during his speech at the graduation ceremony. We also tried to organize a protest with students. Gezi Park protests helped us to perform similar ones (Interview, ITU).

Both movements demanded to be taken seriously and to deal directly with the university administration. When the ITU movement managed to sit down at the table with the Rector, it also enhanced its legitimacy on campus and started its growth period, where more assistants began participating in their meetings regularly.

In contrast, the METU movement never entered such a growth period and only achieved recognition by the university administration, shortly before their complete

termination in June 2013. At that time, the university had arranged a fair for high school graduates to convince them to choose METU for their future studies. The movement requested permission from the organizers to hold a forum during the festival. However, they were not allowed to do so. Despite this rejection, they set up their tent and had their protest around the tent for a while. The tent-protest was the last known protest of the movement at METU, and they have not held any activities since then. The regular meetings stopped, as fewer and fewer assistants were attending them. Currently, the METU movement is no longer active, as one respondent described:

We established the assistant's movement as an umbrella group to cover all assistants who are not members of Eđitim-Sen or ÖED. However, we were not successful. A few members of the movement are now part of ÖED, which is at least recognized by the METU Rectorate (Interview, METU).

Thus, while the ITU movement gained some status and acknowledgment that fueled its growth, the METU movement remained marginal and became extinct. Therefore, the Rector meeting at ITU is considered within the scope of this study as a milestone, indicating the first meaningful achievement of the movement and the starting of its growth stage. In the growth stage, the ITU movement continued to employ forcing frames while diagnosing problems. For example, “until this injustice comes to an end, the resistance of the assistants will continue at the tent that is placed in front of the Rectorate building in the ITU Maslak campus” (Asistan Dayanışması, 2012d).

The movement had set up a tent in front of Rectorate building after a university senate meeting, where assistant issues were discussed. However, the movement was not satisfied with the decisions of the senate meeting. As one of the respondents explained:

Like in other worker strikes, we set up a tent and said ‘you push out us, but we are staying here’, ... we want to perform a protest that does not begin and end like protest marches. We want something that is ongoing (Interview, ITU).

A tent was set up every morning and removed every night and stayed in front of Rectorate building for nearly two months. After that, the movement decided to move the tent to the main square of the university between the cafeteria and the library. The square was renamed as the “Solidarity Square” by the movement. The movement has decided to move the tent because the location of the Rectorate building is not that central in the campus, and the solidarity tent was not visible to many people in the university. In addition, administrators, security personnel, and others in the Rectorate

building have gotten used to the tent after a while, and it no longer created the intended pressure on the Rectorate:

Rectorate building is out-of-the-way in Maslak campus and away from all faculties, the social center, and the cafeteria; that was why we decided to place it in a more central position, at first, our tent caused pressure on the Rectorate ... however, then they got used to us ... I am not sure who made the offer, but they have even sent us a dessert to show how democratic they are (Interview, ITU).

In addition to changing the location of the tent, the movement decided to stay on campus during nights too, in order to increase its influence and the visibility of their protest. However, due to weather conditions, a tent was not appropriate for winter nights. Therefore, they decided to find a caravan to be stationed at the “Solidarity Square.” The importance of staying on-field during day and night is described as one of the respondents as:

We decided to stay for 24 hours to show everyone that we are here. In addition, staying on the square during cold nights may touch the hearts of the people, and we hoped it might increase the pressure on the Rectorate (Interview, ITU).

Moreover, during those days, a protest march was also organized with the same route, from the cafeteria to the Rectorate building, as was the case in other protest marches in Maslak campus. The movement organized an opening ceremony for the caravan on the same day of the protest march to increase the effectiveness of their new activity. After that day, the caravan became the center of attention for members of the movement, students, instructors, and all other staff members at the university until the day it was removed. Protest marches after that day started from the caravan.

At the end of January 2013, a general meeting with YÖK was planned, and the ITU Assistants’ Solidarity movement decided to organize a meeting in front of the YÖK building in Ankara on the same day to protest-related legislation. Assistants from METU and other assistant movements from different universities also supported this protest. Assistants stayed in front of the building for two days and waited for the results of the YÖK meeting. One of the members of the movement at ITU argued that this was to increase the pressure on the university administration:

University administration is always saying that the responsibility belongs to YÖK. Also, we cannot gain anything by showing resistance inside ITU. So, we have decided to go to the YÖK meeting in Ankara (Interview, ITU).

This was not the only protest performed to increase the external pressure on university administration. After the YÖK gathering, ITU assistants' movement has organized protests outside the meeting of the European Universities Association on ITU campus, in which the president of YÖK was also attending. They have prepared posters in English this time, to attract the attention of European professors in the meeting. This protest served the purpose and attracted the attention of the meeting participants, and the president of YÖK, who made a small chat with the assistants outside the meeting.

The ITU movement also preferred forcing frames while offering solutions at this stage. Until the end of this period, one of the movements' main demands was canceling the dismissal of "overdue" assistants and letting them return to their jobs again. They mostly applied to force frames to get results before any more assistants were dismissed. For example, "we will not allow the future of ITU to be pillaged and will protect the rights of assistants" (Asistan Dayanışması, 2012d).

One of the most known protests of the ITU movement appeared spontaneously at the end of a protest march. When the group reached the Rectorate building, they requested to speak with the Rector and representatives of the movement began to negotiate this issue with security officers waiting at the door of the Rectorate building. While the talks were going on, the larger group came to the door and squabbling began with the security officers. One of the interviewees explained this incident as:

In our protest, the action came out spontaneously. While we were talking to the security to get in the building, the crowd waiting at the back pushed us inside of the building, and we were able to get in (Interview, ITU).

The assistant movement later organized small festivals in the main campus and the others of ITU. Some of them had appeared spontaneously in front of the tent and the caravan during the visits of different singers and artists from outside, supporting the movement.

The ITU movement reached its maturity stage when all "overdue" assistants were dismissed, but the movement survived nonetheless. While the termination of existing contracts and dismissed assistants represent an ultimate failure, the Assistants' Solidarity movement at ITU is still living and very active. They are still organizing protests, marches, and regular meetings, updating their blog and Facebook pages.

At the maturity stage, the ITU movement referred to problems by using influencing frames. For example, during those days, some assistants returned to work under a court decision; however, as the movement argued, other assistants under the same circumstances were not reinstated. The movement tried to influence the university administration as follows “we are expecting that members of the university administration will not remain quiet and will become a part of the offense” (Asistan Dayanışması, 2014a). They also offered solutions by employing influencing frames such as “... as the ITU Assistant Solidarity Movement, we salute the resistance of students and call out to the ITU Rectorate to satisfy the demands mentioned ...” (Asistan Dayanışması, 2014b).

As the employment terminations for “overdue” assistants have been completed, the movement shifted its interest to the legal process where dismissed assistants took the university administration to court to obtain a legal order for their reinstatement. The ITU movement is still trying to attract new members from the newcomer and “50d” assistants and maintain itself as an active group at ITU today, discussing issues about the university, academics, assistants, and students. It is also more concerned with broader national political issues – aiming to participate in and bring those debates to the ITU campus.

3.6 Discussion of the Case Study

I have analyzed the framing of textual material with two framing typologies: General Framing and Power-Based Framing. Table 3.1 describes the predominant power types identified as diagnostic, prognostic and motivational frames in emergence, growth and maturity stages of the ITU movement, whereas Table 3.2 describes the same for the emergence stage of the METU movement.

The data show that, in both of the movements, episodic framings (Clegg, 1989; Lawrence et al, 2001) prevail at every stage of their life cycle. Powerful actors can exercise systemic power and maintain it over others through the control of information, mass media, and the process of socialization (Lukes, 2005). In this case, the power balance is against solidarity movements since university administrations and YÖK have greater access to such hegemonic sources of power (Levy and Scully, 2007). Accordingly, movements may need to refer to more episodic framings during their struggle to gain legitimacy (Suchman, 1995).

Table 3.1 : Framing Repertoire of the ITU Movement.

	Diagnostic Frames	Prognostic Frames	Motivational Frames
Emergence	Forcing frames (32%)	Forcing frames (25%)	Influencing frames
	Disciplining frames (11%)	Dominating frames (13%)	(%19)
Growth	Forcing frames (33%)	Forcing frames (33%)	Influencing frames (33%)
Maturity	Influencing frames (26%)	Influencing frames (10%)	Influencing frames (29%)
			Disciplining frames (15%)

Table 3.2 : Framing Repertoire of the METU Movement.

	Diagnostic Frames	Prognostic Frames	Motivational Frames
Emergence	Influencing frames	Forcing frames (%26)	Influencing frames
	(%35)	Influencing frames	(%18)
		(%17)	

Note: Frequency% values higher than 9% are reported to locate predominant types.

During the initial stages of the ITU movement, problem and solution descriptions were more forceful, possibly creating faster results in terms of establishing the movement, compared to a scenario with more influencing frames. As the movement gained legitimacy and recognition over time, the influencing frames increasingly replaced forcing frames. During the emergence and growth stages, the movement objectified its targets in its rhetoric and discourses. This objectification was employed to gather results within a short time. According to Lawrence et al. (2001),

... the way in which acts of force objectify their targets will have a significant effect on the pace of institutionalization processes. Unlike influence, where the target's choice processes cause delay, the use of force acts immediately and directly on the practices themselves ... (p. 635).

For example, during its emergence, the ITU movement occupied the Faculty of Mechanical Engineering after a protest march that began from Taksim Square and ended at the ITU Gümüşsuyu campus.

On the other hand, at all stages of the ITU movement and during the emergence of the METU movement, motivational frames were employed for the mobilization of members and for establishing identities. According to my analysis, these frames were primarily influencing frames. Several papers consider “influence” as a form of manipulation and as a component of framing (Clegg, 1975; Lawrence et al, 2001; Lukes, 2005). According to the literature, social movements use framing to align their ideologies, understandings, and identities with their supporters and members (Snow et al, 1986). As Davis et al. (2005) argue, “... framing involves the strategic creation and manipulation of shared understandings and interpretations of the world, its problems, and viable courses of action” (p. 49). In my analysis, I understood that both movements use influencing frames, primarily to exercise power over others, thus making them subjects to provide support, gain more members, and establish their identities. Although this type of framing requires time and causes a delay in the institutionalization process, the actors need time for decision-making and to evaluate the costs and benefits of engaging in social movements (Hendry, 2000).

While influence and force had been the primary mechanisms, the ITU movement has anchored its problem diagnosis and suggested a solution with social and external references at the emergency stage and via disciplining and dominating frames toward its central opponent, the university’s administration. This may have helped the movement in acquiring further legitimacy for its claims. According to the literature, actors, as institutional entrepreneurs, refer to higher-order logic prevailing in the field and “embed their project more firmly in one of the possible institutional foundations” (Clemens and Cook, 1999, p. 459). The movement at ITU especially acquired such legitimization in the early stages of its life cycle. Their claims are made against decisions of YÖK and the ITU administration, both more powerful than the ITU Assistants’ Solidarity Movement. Therefore, they grounded their underlying message on higher-level institutional references, such as “autonomy of universities”, “job security” and “law and justice”.

Another interesting observation is that once the ITU movement matured, it started employing more disciplining frames. At the same time, it also employed influencing

frames, as a secondary mechanism, to create a faster and more enduring alignment among its members and potential supporters. Lawrence et al. (2001) argue that as influence and discipline slowly spread among members, their combination will affect the situation faster. It also provides institutional support for the influence mechanisms, leading to enhanced stability. Consequently, members of the movement begin participating in a movement's actions without external motivators (Lawrence et al, 2001).

Comparison of the framing repertoire of the METU movement (see Table 3.2) also reveals exciting results. The terminal failure of the movement at METU may have various explanations. It took a milder attitude in explaining its diagnosed problems by using influencing frames and did not appeal using forcing frames. This movement also did not provide additional support to its claims with systemic/social powers or with disciplining and dominating frames. I argue that this is mostly because the assistants were already acquainted with METU's routinized practices on assistantship such as hiring and firing criteria and job descriptions; thus they considered this as taken for granted (Zucker, 1977) and appropriate (March and Olsen, 1989), until the emergence of protests and the movement against similar practices at ITU. So, they had never tried to relate their claims to prevailing institutions (Friedland and Alford, 1991) to gain higher legitimacy and acceptance.

Moreover, all three dimensions of space that Taylor and Spicer (2007) underlined as 'Space as distance', 'Space as the materialization of power relations' and 'Space as lived experience', as well as their combinations are identified during the actions of both movements. For example, those with the movement at ITU walked from the square in front of cafeteria to the Rectorate building during protests. Similarly, the biggest protest march of the movement in METU began in front of the faculty of education, where too many members of the movement work and ended at Rectorate building. Beginning and ending points define a meaningful space and materialize the power struggle, also describing the opposing sides. The cafeteria square in ITU is a place the students occupy, and the movement is powerful. The Faculty of Education in METU, similarly, is the place where many of the assistants attending the protests are located. The Rectorate building on both campuses, on the other hand, symbolizes the other side of the power struggle. The protest march represents the flow from the movements' dominated space towards the boundaries and sometimes inside of the

Rectorate building. On the online side, Facebook pages and the movement blog are virtual spaces that are not regulated by the university. So, they represent public spaces that are available to communicate and seek legitimacy for the movement without any restrictions.

Both movements used hybrid spaces during their actions. They supported their protests in the physical space with their Facebook pages and blogs in the online space. They mostly prefer to announce their protests from online spaces before occupying the offline space and then publish visuals and documents again from online spaces regarding their protests to develop their identity and attract public attention. In brief, online spaces are used as a complementary field of protests, taking place in offline spaces. This behavior can be seen commonly in all actions of both movements, except for the ones that need to be kept hidden until the day of the action. For instance, the movement in ITU kept its protests strictly confidential during the European University Association Meeting. Similarly, the movement in METU set up a tent during introduction days of METU without permission and without any announcement from online spaces to avoid counteraction. While emerging, both movements preferred actions in hybrid spaces to occupy as much space as they can to attract attention and publicity. Since movements could not reach their initial objectives, they tried to find out new ways that lead to much more pressure on the other side of the struggle in later protests. Accordingly, they performed protests without announcing them in online spaces.

Although both movements have similar structures and follow similar steps during their emergence, their impact and size significantly differ. Context and culture in which they emerge had to influence these two movements. First of all, in ITU, application of YÖK's limitations is a new situation; however, assistants at METU have already gotten used to working with such limitations, which becomes part of the daily practice in the university. Because of that, the impact of the new regulations has different meanings for the assistants in both universities, affecting their attendance to the movement and their support of protests. Additionally, members of the movement in METU wait for an agent to trigger their actions and eventually faced to postpone their two protests on campus. On the other hand, the application of new regulations is enough for the assistants in ITU to perform their protests.

Another difference between the two movements is the power of other pre-existing organizations in which opponent actors in universities established. In METU, most of such actors are already members of similar organizations such as Eđitim-Sen and ÖED, which are perceived as more legitimate foundations, defending the rights of the people in METU. Thus, members of assistants' solidarity movement in METU, who are already members of Eđitim-Sen and ÖED, prefer to attempt protests under these organizations, instead of participating in the assistants' solidarity movement. The politicized environment in METU may let Eđitim-Sen and ÖED emerge as more powerful organizations and overshadow the movement. On the contrary, since such organizations in ITU are relatively less powerful, assistants at ITU could freely identify themselves with assistants' solidarity movement because there is no competing movement on the campus.

As a conclusion, in this case, I have focused on the framing tactics of two emerging social movements at two different universities in Turkey that aim to deinstitutionalize an enforced employment practice in higher education. I have synthesized two framing classifications from the literature, one of which is used as a general approach, while analyzing the framings of social movements (Marullo et al, 1996; Snow and Benford, 1988) and the other one was devised by me to understand power-related dynamics during institutionalization processes (Lawrence et al, 2001). With the help of these lenses, I have analyzed the online textual material that has been enriched with in-depth interviews and focus groups. Accordingly, I assessed the framing repertoire of the Assistant's Solidarity Movement at two universities over different stages of the movements' life cycles.

This empirical fieldwork contributes to the existing literature in several ways. First of all, it takes into consideration power dynamics, which have been mostly neglected in neo-institutional theory (Mizruchi and Fein, 1999) and in framing research (Carragee and Roefs, 2004). I devised a novel approach to understanding covert or overt power relationships in discourses and framings of social movements toward institutional change. Clegg et al. (2006, p. 17) mentioned the link between power and discourse as: "Power and discourses are equally intermingled insofar as they constitute the political structure of organizations through various circuits of power. Discourses shape structures and provide the means for ordering the political structure. Thus, organizations and individuals use discourses purposefully to shape the political

situations in and through which they can act and perform.” The enmeshed relationships between discourses and power relations are central for understanding institutional entrepreneurship and change (Mahoney and Thelen, 2010).

Secondly, I developed an understanding of how social movements, as institutional entrepreneurs, appeal to different framing tactics with different power processes. Institutional entrepreneurs deploy different strategic actions to reconfigure power relations and distribute resources according to their interests (Levy and Scully, 2007). I explored power mechanisms that had been exercised by two different movements for different life cycle stages and found that tactics diverged between the movements and also varied for different time frames. I conclude that even if social movements begin with very similar demands and in the same organizational fields, their outcomes may diverge, according to the differences and changes in their framing strategies during their life cycle. I argue that these tactics are mostly based on different power mechanisms that influence the legitimization of the movements’ demands and actions, leading toward the establishment of a more enduring movement.

Thirdly, I have worked both with online and offline empirical data to understand these social movements. Using online sources of data for ethnography is a relatively novel methodology and needs to be considered as vital when a significant part of the respondents’ lives takes place online. Hence, this research is one of the few examples of a hybrid, offline-online ethnographic approach (Tunçalp and Lê, 2014). Moreover, I relate spatial tactics of two movements with their spatial tactics at offline space. Based on my analysis, power asymmetry and inequalities between two sides of a workplace struggle make it essential for the assistant movements to exercise different spatial tactics for spatial occupation and transgression to attract public and community attention to their issues and emerging conflict. I consider these resistance strategies as the movement’s spatial repertoire, which is composed of semiotic codes, collective schemes, practices and communities that are influenced by the organizational culture of the emerging movement and the broader context of the university.

I observed that attracting public interest at the university campus requires balancing the power inequality with spatial tactics to gain visibility and exercise influence on the university community. Besides the physical space, I also identified research assistants’ spatial transgression tactics on, around and beyond the campus, including online, offline, and hybrid spaces. At the same time, the assistants’ movement linked their

conflict to social and spatial inequalities in and around the university and with other movements in the country.

Finally, in this chapter, I have examined social movements in two different organizations within the Turkish higher education field. Considering them to be “institutional entrepreneurs” offers the potential to enrich our understanding of social movements and institutional change regarding their framing tactics. I believe that more studies are needed to further analyze these interrelationships and the dynamic, contested, and dialectical nature of framing processes. In the future, frames of university administrations and media frames surrounding these debates can be further analyzed to understand the multi-sided and multi-faceted nature of framing contests better. For example, future studies could cast light on whether framing tactics differ between different professions and organizations with strong professionalization, such as attorneys, healthcare professionals, and journalists.

Alternatively, how power mechanisms, arising from the relation of human actors and material objects, including but not limited to space, place, and artifacts are exercised for institutional change in different institutional fields also needs further investigation. As I illustrate in this chapter, framing tactics of social movements are altered, according to the practices that are constituted by spatial enablement and constraint. Thus, in order to understand and explain how materiality participates in the constitution of social order, relations between humans and materials can be examined through theoretical approaches considering active participation of materiality. Sociomateriality perspective (Orlikowski and Scott, 2008; Leonardi, 2011) provides opportunities to perform such studies in the way of drawing links between institutions, power, and materiality. In the next chapter, I present a theoretical model that shows reciprocal interactions between the social and material realms and power-based mechanisms arising from these interactions. The theoretical model developed in the next chapter relies on data which was collected from the Turkish healthcare field.



4. CASE STUDY 2: HEALTHCARE

4.1 Overview

Institutions have practice-based foundations (Jepperson, 1991; Lawrence and Suddaby, 2006) as they are created, maintained, and changed through actions (Powell and Colyvas, 2008). In this field of research, recent studies show that improvisations in everyday organizational practices can propagate to field level and trigger the institutional change (Smets et al, 2012). Moreover, everyday organizational practices that are comprised of human – material relations (Schatzki, 2001b) may yield expected or unexpected consequences, as a result of situated interactions between the social and the material (Glaser, 2017). However, the mechanisms of conditioning and expanding human – material relations in practices are still in question, especially for the material side of this relation. Following this line of inquiry, I ask the question *what are the specific mechanisms by which materiality attends to institutional change and stability in organizational practices?*

The power-based view can help to examine the answer of this research question as carrying out a practice requires engaging in power relations (Barnes, 2001). So, I mainly focus on power-based mechanisms that operate during the emergence, routinization, and change of organizational practices. I examined this phenomenon by conducting qualitative inductive research (Corbin and Strauss, 2008) in the Turkish healthcare field. I study specific organizational practices of emergency departments of two hospitals, which are under the healthcare reform and the increased managerialism as a global trend in the healthcare industry (Scott, 2000). My analysis also covers the central regulatory body in the Ministry of Health (MoH), implementing the healthcare reform, and periodically auditing these hospitals. Thus, I have collected data from multiple hierarchical levels through interviews and observations both in these hospitals, as well as the auditing and policy implementation teams at the MoH.

In this chapter, I take a practice-based (Schatzki, 2001b; Jarzabkowski, 2005) and sociomaterial (Leonardi, 2013) perspective for a fair consideration of social and

material aspects of power. I develop a model that draws power relations between social structures (institutions), material structures, and practices. According to the data, while social structures and material structures condition human – material engagements, these engagements also carry the potential for change through strategic, unintended, and improvised actions.

This chapter has three substantial contributions to the extant literature. First of all, despite the central role of power in institutional processes, it has been understudied both theoretically (Clegg et al, 2006; Munir, 2014) and empirically (Lawrence et al, 2013). With the model developed in this chapter, I show different kinds of power-based mechanisms arising from social and material conditioning and attempting to change/maintain these means of conditioning. This model elaborates on the power relations between materials, practices, and institutions, and by doing so, we deepen our understanding of different mechanisms of power in institutional processes.

Secondly, while there are studies in the literature showing disciplinary effects of materials on practices through their symbolic meanings (e.g., Jones and Massa, 2013) and use as a means of surveillance (e.g., Labatut et al, 2012), physical affordances and constraints of materials contributing to emergence, propagation, and decay of institutions through power-based mechanisms is downplayed in the extant literature (Leonardi and Barley; 2010). Traditionally, there is limited interest to materiality and coercive modes of power (Latour, 1991; Lawrence and Phillips, 2004; Phillips et al, 2004; Lawrence, 2008). This empirical fieldwork is one of the earliest examples of research, acknowledging materiality in power-based mechanisms and linking them with institutions.

Thirdly, this chapter contributes to the sociomateriality approach by showing its links with institutions as sources of power and cross-fertilize these literature streams. In this way, I extend the current academic discussion about sociomateriality and institutions (e.g., Hultin and Mähring, 2014), and open new areas for research.

4.2 Social and Material Interactions: Sociomaterial Practices

4.2.1 Extant research on social–material interactions and power

In the extant literature, different studies are portraying how power processes emerge from the engagement of social and material that relate to institutions. They can be

classified into two main groups, both of which do not consider or downplay the physicality of materials and their active contributions to power-based mechanisms. The first group focuses on institutional level symbolic meanings attributed to material practices (Friedland and Alford 1991; Thornton, 2004). For example, Jones et al. (2012) studied institutional materials, which are used by the actors to construct, contest and elaborate on a *de novo* category within the context of modern architecture between 1870–1975. This study has linked logics with artifact codes, showing which material features are selected and combined to establish the new category. Jones and Massa (2013) examined new practices as a result of which the Unity Temple became a consecrated exemplar, challenging prominent churches by offering new symbolic, aesthetic, and material practices. They demonstrated the role of materiality in instantiating, diffusing, and institutionalizing novel ideas. Siebert et al. (2017) elaborated on the role of spatial power in maintaining institutions through symbolic practices influencing aesthetic senses and emotions of people.

The second group examines the development of identities from human – material interactions in organizational practices and highlights how these identities become a locus of power, changing, or resisting institutions. For example, Kellogg (2009) has shown how relational spaces facilitate reformers in hospitals regarding isolation, interaction, and inclusion, which allow them to develop a resistive identity and challenge with defenders of an institutionalized practice. Labatut et al. (2012) explored the disciplinary effects of a new breeding technology in farming practices. Consequently, new meanings appear in the organizational routines and new professional identities emerge. Petrakaki et al. (2016) conducted a study to explore how professional identity and power balance are rearranged in an English hospital when a new technology is introduced into professional practices.

The leading criticisms to the abovementioned studies in the extant literature are about their focus on humans or humanly ascribed meanings to materials as the source of power that leaves the very material aspects of power in the background, hence neglect or miss an essential part of the picture (Latour, 1991; Lawrence and Phillips, 2004; Phillips et al, 2004; Lawrence, 2008). This underexamined part is essential as “material constraints and affordances may foster the emergence and spread of institutionalized [practices]”, which are related to power-based mechanisms (Leonardi and Barley; 2010, p. 41). Therefore, similar to the existing studies I embrace practice-based view

to examine human – material interactions, nevertheless, I make use of the sociomateriality perspective that provides opportunities to examine material constraints and affordances (Leonardi, 2011; 2013).

4.2.2 Practice-based lens

Institutions provide stability and meaning to social life (Scott, 2001) and are enduring patterns of interactions that are regularized by different control mechanisms (Jepperson, 1991; Lawrence and Suddaby, 2006). These interactions essentially constitute practices (Schatzki, 2001b) and are not only conditioned by existing institutions, but they also carry the agentic capacities to revise and replicate institutions (Barley and Tolbert, 1997; Seo and Creed, 2002). Thus, the practice-based view draws attention to these interactions as the micro-foundation of institutions and the role of agency constituting activities (Powell and Colyvas, 2008).

Agentic capacities in practices may change institutions intentionally (Lawrence and Suddaby, 2006) or unintentionally (Boxenbaum and Pedersen, 2009). Moreover, actors can improvise depending on the situations they engage in practices (Orlikowski, 2002). Even if these improvised practices may be mundane, in case of their propagation, these everyday activities can change institutions (Smets et al, 2012).

During the interplay between the agency that carries the capacity to change or maintain institutions and structural control mechanisms perpetuating existing practices, power emerges as the property of this relationship (Lawrence et al, 2001). While structural sources of power are enduring and indirectly exercised to stabilize the patterned interactions, sources of power arising from agency employed directly and episodically to maintain or change structures (Lawrence, 2008; Fleming and Spicer, 2014).

Agency, on the other hand, is considered differently in the literature. Some scholars ascribe humane properties to an agency such as intention and purposiveness (Emirbayer and Mische, 1998). However, in practice-based approaches, the agency is considered as related to the activity. Accordingly, agency refers to practical implications that produce effects in the actual world and is about “doing” things (Giddens, 1984, p. 10). This activity-based definition of agency frees it from being a property of humans and allows it to be associated with both humans and materials (Leonardi, 2011).

Practice-based view, in addition to human – human interactions, also acknowledges human – material engagements, from which building bricks of institutions can emerge as meanings and identities (Schatzki, 2001b). In case of human – material engagement, materiality plays a role in configuring the practice (Monteiro and Nicolini, 2015) through the “dialectic of resistance and accommodation” between the material agency and human agency (Pickering, 1995, p. 22).

On the other hand, new material structures such as new designs and innovative material solutions (Orlikowski and Barley, 2001) can appear as a consequence of practices. These material structures can carry traces of the social structures. For instance, material structures can have mandated specifications and standards or bear symbolic values (Scott, 2003). However, more than this, these materials have a structural being apart from social abstractions (Hardy and Phillips, 2004; Leonardi, 2013). Similar to institutions, these very material properties also participate in regulating the practices and indirectly contribute to the constitution of institutions (Leonardi and Barley, 2010).

In this chapter, I embrace sociomateriality perspective, in order to consider the social and the material constituents of practices without privileging one over other. Accordingly, I examine power-based mechanisms arising from the relations between social – material structures with sociomaterial practices. Sociomateriality perspective was initially adopted by Suchman (2002) and was popularized by Orlikowski (2007) and Orlikowski and Scott (2008). There are two mainstream approaches of sociomateriality perspective in the literature; agential realism and critical realism (Leonardi, 2013).

4.2.3 A critical realist approach to sociomateriality

The main discussion on sociomateriality is whether there is a duality of the social and the material or dualism. Scholars from the former stream embrace a non-essentialist approach based on the agential realist ontology of Barad (2003). According to this view, the social and the material are inextricably intertwined and “constitutively entangled in everyday life” (Orlikowski, 2007, p. 1437).

On the other hand, dualists argue that this ontological stance of sociomateriality brings some epistemological problems (Leonardi and Barley, 2010; Leonardi, 2013; Mutch, 2013; Tuncalp, 2016). The conflation of the social and the material into the same

ontological whole makes it challenging to analyze the contribution of these two phenomena in sociomaterial practices. In order to solve this problem, they embrace a critical realist approach (Archer, 1995). According to the critical realist approach, the social and the material are separate entities, and it is possible to talk about the inherent material properties of an artifact or technology (Leonardi, 2013).

As this discussion is beyond the scope and limits of this research, it is better to explain which of these viewpoints I follow and why I did so. In this research, I embrace the dualist view of sociomateriality, which helps to observe episodic sources of power in case of individual engagements between humans and materials. Moreover, it also facilitates the locating of enduring sources of power arising from the structural properties of materials, which is apart from any human intervention. Accordingly, in this research, while social structure encompasses norms (values, meanings), regulations (sanctions, conformity, and punishment) and positions (statuses and roles); material structure includes architecture (layout, interface, design), physical properties (geometry, form, mechanics, strengths and other micro-level motions) and chemical properties (states, reactions, and other micro-level properties).

4.3 Research Context

The Turkish healthcare field has been exposed to substantial institutional changes with the Health Transformation Program (HTP) since 2003 (Aksoy, 2007). More recently, at the end of 2011, Decree-Law 663 was accepted. This law aims to define the organizational structure, tasks, authorization, and responsibilities of all facilities under the MoH. According to this law, related bodies under the MoH have to evaluate performances of public hospitals and establish the required infrastructure for such an evaluation system.

According to this law, a new performance evaluation system in 2013, Performance Scorecard (PS), has been introduced to the healthcare system and has brought a new management approach to public hospitals (Özseven et al, 2014). PS includes some key performance indicators (KPIs) and mainly focuses on managerial processes in public hospitals through a digitally supported monitoring system. PS also comprises “On-site Performance Evaluations” (OPE), which was first introduced to examine the correctness of the data reported by hospitals that are used to generate PS. So, during OPE, the audit teams focused on KPIs in PS and how the data of these KPIs are

reported to the MoH. However, in 2015, question sets apart from PS were defined for OPE. These questions concern all departments in the public hospitals and ask for arrangements defined by regulations. KPIs in PS and question sets in OPE can change year by year, because of different reasons such as changing regulations, the focus of the MoH, feedbacks from the field, etc. Although institutions have normative, regulative, and cognitive pillars (Scott; 2001), I focused on the regulative pillar that comes out as several different types of legislation, which are crystallized in PS and OPE. So, I traced changes in PS and OPE to capture the institutional change.

On the other hand, the physical and technological infrastructure of public hospitals has been transformed considerably with the resources provided by the initiation of HTP and in parallel to the emergence of new technologies. Architectural layouts have been renovated (Akdağ, 2009; Özseven et al, 2014), scarce medical technologies have become available (Bump et al, 2014) and digitalization of processes has been increased (Ülgü, 2008; MoH, 2014) in public hospitals.

I conducted this research in the Turkish healthcare field for several reasons. First of all, this field has been undergoing a major institutional transformation for some years – both in Turkey and abroad. Initiation of PS and OPE and new material context are of supporting quality for me to reveal the examined phenomena (Eisenhardt and Graebner, 2007) and find out the answer to the research question. Second, the healthcare field is one of the most frequently studied empirical domains for organization theory (e.g., Kellogg, 2009; Petrakaki et al, 2016), giving an opportunity to join the existing academic dialogue. Third, there are many records kept and documents produced to provide archival data about organizational processes under focus. Last but not least, understanding healthcare organizations are critical to the well-being of society, further enhancing the potential impact of this empirical fieldwork.

4.4 Methodology

I selected emergency departments of two equally large public hospitals in Turkey to conduct ethnographic fieldwork. Nearly one-third of the patients applying to the selected hospitals came to the emergency rooms of these hospitals (PHSR, 2017) to receive medical treatment. Moreover, I also collected data from regulatory bodies at different levels of the MoH.

4.4.1 Research design

I examine herein how sociomaterial practices relate to institutions over power-based mechanisms through qualitative research (Dyer and Wilkins, 1991) to understand contextual richness and complexity (Denzin and Lincoln, 2005). Therefore, I performed a critical ethnography (Carspecken, 1996; Atkinson et al, 2001; Rashid et al, 2015) in two public hospitals. My ethnographic fieldwork in two hospitals not only allowed me to develop a more robust theory (Eisenhardt and Graebner, 2007) but also collecting data from multiple cases helped to identify local variations, allowing comparative analyses and better understanding the focused phenomena (Flick, 2008). I also run empirical research at multiple levels to understand the complexity and macro-level dynamics of the regulatory implementation in the organizations under analysis (Hitt et al, 2007).

4.4.2 Data collection

I collected the empirical data from three data sources: observations, interviews, and archival materials. Before starting the field research, I held six pilot interviews in order to understand whether or not selected research units are suitable for such a research. Afterward, I initiated the empirical fieldwork and conducted my observations and interviews in parallel, as the research kept unfolding over time. I also gathered a rich archival data, including regulations, reports, guidelines, and meeting minutes.

During the ethnographic fieldwork, my engagement with the interviewees, social relations with observed participants and my professional background could have influenced the analysis of the data. However, I attempted to overcome possible biases by arising from myself through “epistemic reflexivity” (Johnson and Duberley, 2003, p. 1288).

On the other hand, my participant observation may have affected our subjects’ perceptions of the focal phenomena and their involvement with it. This situation arises through the double hermeneutic process (Giddens, 1993) and unavoidably challenges my subjectivity. I acknowledge that my findings do not reflect absolute objectivity or generalizability. However, I embrace the critically intersubjective approach (Fay, 1996), while exploring the focused phenomena. I conduct triangulation (Yin, 1994), observations, interviews, and archival material to scrutinize and verify my data.

4.4.3 Observations

This research aims to focus on sociomaterial practices, and these materials can be in the form of physical layouts, information technologies, medical equipment, and other artifacts. Therefore, observational data plays an essential role in capturing materiality in the sociomaterial practices. Accordingly, I spent 162 hours in total between April 2017 and December 2018 to observe (DeWalt and DeWalt, 2011) interactions between social and material in the emergency departments of two hospitals. Total hours spent in Hospital A and Hospital B are approximately 88 hours and 74 hours, respectively. I also attended an on-site audit in Hospital A, which was held by the local bodies of the MoH in order to prepare the hospital to the on-site audit of the MoH and two pieces of training organized for the on-site auditors.

I had paused my observations between November 2017 – January 2018 and August 2018 – October 2018. These three-month breaks helped me to better realize possible shifts in sociomaterial practices and changes in the material structure. Moreover, I held observations on different days (workdays and weekends) and shifts (morning, afternoon, evening, and night) in order to capture possible varieties in daily activities.

During the observation period, extensive notes were taken to capture as much detail as possible about human – material interactions. After each observation, field notes were written down to notebooks and were transferred to electronic formats. Moreover, before starting each observation, previous notes were read through to question possible changes in the research setting.

4.4.4 Interviews

After the six pilot interviews, I conducted 45 semi-structured interviews (Fontana and Frey, 2005) as the field research unfolds. These interviews lasted between 15 – 110 minutes, with an average of 45 minutes. The interviews were held with managers, specialists, physicians, nurses, data entry clerks in hospitals and undersecretary, general directors, head of departments, auditors and specialist experts at the MoH.

In Hospital A, distribution of the interviews was as such – two managers, two specialists, five physicians, five nurses, and three data entry clerks. In Hospital B, I conducted interviews with two physicians, three nurses, and three data entry clerks. Moreover, five interviews with the on-site auditors and twelve interviews with the officers, working at different levels of the MoH were done. I interviewed more than

once with three of the interviewees. Informal interviews were also conducted during the observations with hospital staff. All interviews were transcribed verbatim. Moreover, detailed notes regarding the gestures and the mimics were also taken and added to transcriptions.

4.4.5 Data analysis

Within the scope of this research, I followed the procedures of inductive theory building (Carspecken, 1996; Corbin and Strauss, 2008). While developing the practice-based approach (Feldman and Orlikowski, 2011), I focused on organizational practices (Pentland and Feldman, 2005). I was also inspired by the methodologies, followed in the literature. Accordingly, I reviewed studies embracing practice-based perspective (e.g., Smets et al, 2012; Wright et al, 2017) and examining sociomateriality (e.g., Leonardi 2011, 2012; Glaser, 2017).

I sorted significant events after the initiation of HTP that changes the administrative structure of public hospitals, and therefore, emergency departments through regulations. I also pointed out important architectural changes in the layout of two emergency departments as my empirical setting (see Table 4.1). I selected the time interval of between 2015 and 2018 for the analysis, as it covers the initiation of the significant changes in the institutional and material environment. With the implementation of question sets to OPE, it gained a central role in evaluating the emergency departments. New physical layout, on the other hand, brought a new material structure to the empirical settings.

In the first step, according to my interviews and observations, I identified processes (such as administrative process and healthcare process) and process-related sociomaterial practices (such as auditing, monitoring, triage, patient admission, etc.) in the emergency departments (see Figure 4.1).

In the second step, I focused on KPIs in PS and question sets in OPE, each of which defines ostensive aspects (Feldman and Pentland, 2003) of a sociomaterial practice, evolved in between 2015 and 2018. I analyze the content, in terms of which sociomaterial practices are regulated with these questions and canvassed these questions to identify whether or not they remained, were removed or modified. By doing this, I find out whether these questions changed or maintained as time passes (Langley, 1999). Then, I became ready to match ostensive aspects of sociomaterial

practices in PS and OPE with actual sociomaterial practices, taking place in the empirical field.

Table 4.1 : The significant events after the initiation of HTP in two emergency departments.

Year	Event
2011	Release of the Decree-Law 663 giving the responsibility of performing performance evaluations to MoH.
2012	Initiation of data collection for Performance Scorecard and On-Site Performance Evaluations in public hospitals.
2013	Releasing results of first Performance Scorecard and On-Site Performance Evaluations
2014	Renewing the physical layout of the emergency department in Hospital A.
2015	Initiation of using question sets in On-Site Performance Evaluations.
2016	Renewing the physical layout of the emergency department in Hospital B.

In the third and next step, I compare ostensive sociomaterial practices that are defined by PS and OPE with actual sociomaterial practices, which I drew according to my field data. While PS and OPE comprise of ostensive aspects that frame the sociomaterial practice in the emergency departments, performative appearances (Pentland and Feldman, 2005) of these sociomaterial practices may differ. Moreover, these performative aspects may be distinct in Hospital A and Hospital B. According to these identified deviations, I selected three sociomaterial practices as extreme cases. The strategic sampling of such “extreme” cases provided me a fertile research ground to reveal main aspects of the examined phenomena (Pettigrew, 1990, p. 275). First, two of the selected extreme sociomaterial practices are from the healthcare process: triage and patient admission. The third extreme sociomaterial practice is data entry – collection, which is fundamental for PS and OPE auditing and monitoring of the emergency departments by hospital management.

Administrative process	Auditing by PS and POE							
	Monitoring by hospital managers							
	Data entry & collection							
Healthcare process	Triage	Patient admission	Visual inspection	Medical examination	Diagnosis	Consultation	Medical observation	Transfer Admission Discharge
			Treatment / Intervention					

Figure 4.1 : Main processes in the emergency departments.

In the fourth step, I coded the data about identified sociomaterial practices according to the following clusters: social structure (profession, regulation, etc.), material structure (physical layout, information technology, artefacts, etc.), sociomaterial practice (relations, actions, etc.), interaction pairs (social structure to practice, material structure to practice, practice to social structure, practice to material structure), time interval (before data collection, middle of the data collection, end of the data collection) and differences in two cases. According to this coding, I develop first-order concepts, second-order themes, and aggregate dimensions (Carspecken, 1996; Gioia et al, 2012), all of which are presented in Table 4.2.

While physicians, who work at polyclinics, have relevant expertise about ear, nose, and throat, internal diseases, cardiology, etc.; emergency medicine physicians are specialized in the diagnosis and treatment of emergency situations. Most Turkish citizens do not care to receive healthcare services by polyclinic physicians, who have specialized knowledge on a particular disease and prefer the emergency departments in case of any simple disease, as there is no need to make an appointment and they are open twenty-four-seven. Additionally, emergency departments should take care of any patient applying to emergency departments according to Emergency Healthcare Services Bylaw.

Table 4.2 : First-order concepts, second-order themes, and aggregate dimensions.

First-order concepts	Second-order themes	Aggregate dimensions
Citizens with no emergency situation requesting healthcare service from emergency departments.	Normalize	Social Conditioning
Expectations informed under surveillance.		
Patient classification according to medical knowledge.		
Tenure and title defining the use of ISs and artifacts.		
Local rules defining the use of ISs and artifacts.		
Local rules defining the actions in the emergency department.	Regulate	
Deciding to automate the data collection process for PS.		
Rules defining physical requirements in emergency departments.		
Rules defining responsibilities in emergency departments.	Populate	
Age, sex, and ethnicity of the population receiving healthcare service.		
An excessive number of demands for healthcare services at particular hours.		
Altering the number of demands for healthcare services according to day and month.		
Citizens requesting healthcare service after working hours.		

Table 4.2 (continued): First-order concepts, second-order themes, and aggregate dimensions.

First-order concepts	Second-order themes	Aggregate dimensions
Layout affording daily practice.	Enable	Material Conditioning
Medical devices and artifacts affording daily practice.		
ISs affording daily practice.		
Layout constraining access to the emergency service.	Constrain	
ISs unable to provide particular data to PS.		
The inability of communication between ISs.		
Failure of the artifacts and ISs.		
Interfaces of ISs directing action.		
Elapsed time for chemical and physical mechanisms in laboratory analyses and imaging.		
Distance between locations.	Embody	
Opaqueness between locations.		
Ambiguity/Clarity of signboards and other artifacts providing information.		
Ambiguity/Clarity of voice messages providing information.		
Elucidating to persuade patients.	Negotiate	Social Elaboration
Interrogation and getting required information indirectly.		
Manipulated declaration of information.		
Exaggerating the situation to bypass the rules.		
Restraining the mobility of patients in the emergency service.	Force	
Assault between hospital staff and patients.		
Affront between hospital staff and patients.		
Hospital staff does not follow regulations.	Ignore	
Hospital staff does not follow professional norms.		
Hospital staff does not obey procedures while providing information.		
Wrong data entry in the database and paper-based records.		Revise
Missing data entry in the database.		
Breaking or distorting artifacts in the layout.		
Databases and artifacts used to perform an action.		
ISs' interfaces and databases altered to afford the practices.	Redesign	Material Elaboration
Artifacts altered to afford the practices.		
Layout altered to afford the practices.		
A substantial change in the material environment and the introduction of a new form.	Transform	

According to my analysis, different forms of power-based mechanisms emerge, the sources of which may rely on the humans or the materials. Following that step, I drew power relations between institutions (social structures), material structures, and sociomaterial practice in Figure 4.2.

4.5 Empirical Fieldwork

In this empirical fieldwork, I focused on the emergency departments that basically treat patients with life-threatening conditions. However, in Turkey, emergency departments work like polyclinics, which provide a general and special examination to patients.

When different branches of medicine are compared, in Turkey, emergency medicine is in the first place according to the total number of medical examinations among other departments. Nearly one-fourth of all medical examinations take place at the emergency departments of public hospitals in 2017 (PHSR, 2017). So, emergency departments provide a substantial percentage of services in public hospitals and are appropriate to examine reflections of a new managerial approach on practices in the Turkish healthcare field.

Patient satisfaction at emergency departments is also crucial for national political actors as they are one of the most important meeting points between public services and citizens. Therefore, the MoH tries to regulate emergency departments as efficiently as they can. Among these regulatory mechanisms are PS and OPE, prepared according to regulations. These regulations and questions in PS and OPE, both define service standards and material requirements of emergency services. However, achieving or maintaining the intended consequences may or may not be possible, due to the local conditions arising from the social and material characteristics.

I selected Hospital A and Hospital B, which have large emergency departments and high rankings regarding the number of emergency patients treated in 2017. In addition to this, nearly one-third of patients of these hospitals came to emergency departments (PHSR, 2017). I elaborate on the results of my analysis in the following two subsections.

4.5.1 Power-based mechanisms for triage

Triage can be considered as the first sociomaterial practice of an emergency department and is performed to classify outpatients coming to the emergency departments. According to regulations, triage should be conducted by a physician or medical staff, who had taken triage training. Moreover, it should be before patient admission and recording patient to the hospital information management system (HIMS).

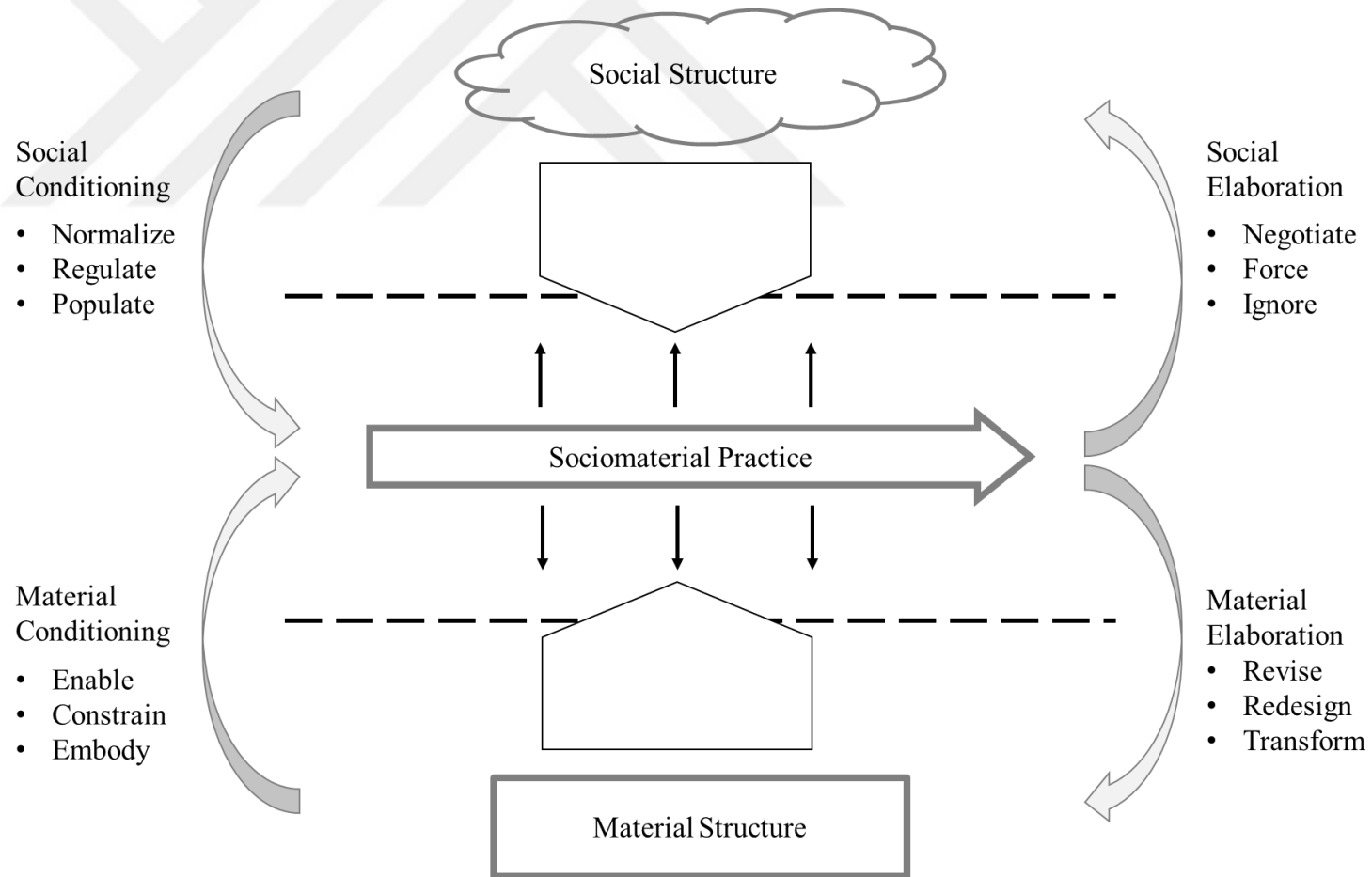


Figure 4.2 : A model of power-based mechanisms in institutional change and maintenance.

There are three primary color codes that can be briefly explained as Green - stable health status and can wait, Yellow – severe health status and should be examined and treated as soon as possible, Red – severe health status and should move to the resuscitation room. There are two classifications for green, which are as Green Area 1 and Green Area 2. According to the regulations, Green Area 1 patients should not wait more than one hour because of morbidity and complication risks. On the other hand, Green Area 2 patients can wait between one to four hours. In most cases, if the patient is old or disabled, he/she is classified as Green Area 1 without considering the health situation.

Do you prioritize your green area patient? [auditor asked to triage responsible] Yes, we give Green Area 1 code to old patients, patients who are unable to walk or patients need to be checked soon (Audit, Hospital A).

[When I asked for prioritizing patients] for example if the patient is old or has some prior serious health problems, we directly take the patient to Green Area 1. We empathize with the patient, bring the patient near the doctor at the green area, and direct the patient's companion to patient admission (Interview, Hospital B).

Patients who are classified as green, whether Green Area 1 or Green Area 2 and yellow are directed to patient admission desk in order for patient data to be recorded. Moreover, green area patients take a queue number from the patient admission desk and move to the waiting points in the emergency department. Patients classified as yellow, on the other hand, directly move to related areas to receive the required medical treatment. During the observations, I have not witnessed any outpatient led to the red area directly. Most of these red area patients are brought in with ambulances. On the other hand, outpatients with severe health problems that are noticed during their check-up at the yellow area are transferred to the red area.

Triage practice is regulated by law as the profile of the staff responsible from triage and steps need to be followed during triage is defined and checked by auditors from the MoH. Moreover, this practice also relies on medical knowledge that draws its normative frame. For example, a physician started to explain triage as “first thing in the emergency service is triage, which is performed by medical staff” (Interview, Hospital A).

However, in addition to regulations and norms, the demographic characteristics of the patients such as age and sex also shape triage practice. Moreover, in case a large

number of people apply to the emergency departments; the service providers fall short of carrying out triage because of inadequate medical staff, physical space, and medical equipment. For example, the Minister of Health announced the introduction of new physical capacities to emergency departments as “we created a new area called Green Area 2. 70% of patients coming to the emergency departments are not yellow area or red area patients” (Archival data, News release of the MoH).

Diverging from the ordinary way of performing triage was also normalized among the staff. When I asked how triage is performed in the emergency department, it was answered by a physician as:

What are you asking; the ideal one or the one we actually do? Nearly XXX [number is hidden as to keep the hospital unidentified] patients apply to this emergency department in a day. It is not feasible to perform triage and check for vitals [blood pressure, pulse, temperature, respiration rate, oxygen saturation] for each of these patients (Interview, Hospital A).

On the other hand, during the field visits, I realized that there were shifts in the triage practice of two hospitals, from both its defined way in regulations and in between two emergency departments. Then I focus on the human – material interactions in the practice and physical layout of emergency departments. According to my observations of physical layout:

The triage desk is on the right-hand side when you enter the waiting room, just next to the patient admission desk. There is a separator between the triage desk and admission desk, but this separation ends before reaching the wall. So, the only separation is between desks, but it is possible to see and move for two people sitting behind the desks (Fieldnotes, Hospital A).

The triage desk is on the right-hand side when you enter the entrance hall in a separate room. It is in the middle of a room with no conjugate artifact, and this desk is easily visible from the open door when you turn your head to the right. On the other hand, patient admission desk is across the entrance door inside the hall and nearly ten steps away from the door of the triage room (Fieldnotes, Hospital B).

In Hospital A, I observed that when a patient enters the emergency department, he/she directly move towards patient admission desk, instead of going to the triage as these two desks are side by side (see Figure 4.3).

The triage staff working in this area can take breaks, and during those times, data entry clerks take the responsibility of performing triage. Moreover, even the triage staff is sitting at his/her seat, while most of the patients are recorded directly to HIMS according to the triage evaluation of the data entry clerk. If a patient comes with

unusual symptoms, data entry clerk asks for advice of the medical staff, sitting just next to him/her, working at the triage desk. So, while the layout and medical devices in triage area enable triage practice, the embodiment of the layout with closed distance and accessibility between triage desk and patient admission desk induces staff to perform triage in this way. When I asked the data entry clerk about the conditions that drive them to seek advice from those, responsible from triage, he answered as follows “we direct patients like chest pain, headache, dizziness, etc. to {showing the left-hand side} triage for blood pressure measurement. I cannot take this responsibility” (Interview, Hospital A). Therefore, triage is performed according to the rules arising from regulations and norms for particular cases, while for everyday situations, these regulatory mechanisms are ignored.

If the triage is performed to the patient his/her blood pressure, pulse rate and oxygen saturation are measured with medical devices, which are then written down to a small triage form (nearly one-eighth of an A4 page) with the other symptoms of the patient. This triage form is then given to the patient, which he/she brings to the examination room. Whether the triage is performed or not, the patient is recorded to the HIMS in any case by data entry clerks. Then, the patient takes a queue number (let’s say this is a green area patient) and waits for his/her examination at waiting points in the green area. All these recordings are performed according to the affordances of artifacts and information systems (ISs).

In the examination rooms, there are patient forms which are composed of two-sided two pages (A4 size) and are in green colors, indicating the patient's triage status. If the patient has any small triage form, the vital signs data in this sheet is copied to the patient form. So, in Hospital A triage form and patient forms are separate at the beginning and then unified at the examination room.

In Hospital B, the physical layout of the emergency department is different (see Figure 4.3). The triage desk is far away from the patient admission desk, and the desk is in the middle of a room with no connection to any artifact. Moreover, this desk is easily seen by the open door. When you enter from the main door, there are not any desks to sit and wait. The entrance hall is a nearly 50m² with nothing but only patient admission desk. So, as layout provokes surveillance, it is not easy for triage staff to leave this place. This transparency induces him/her to perform the practice due to the rules.

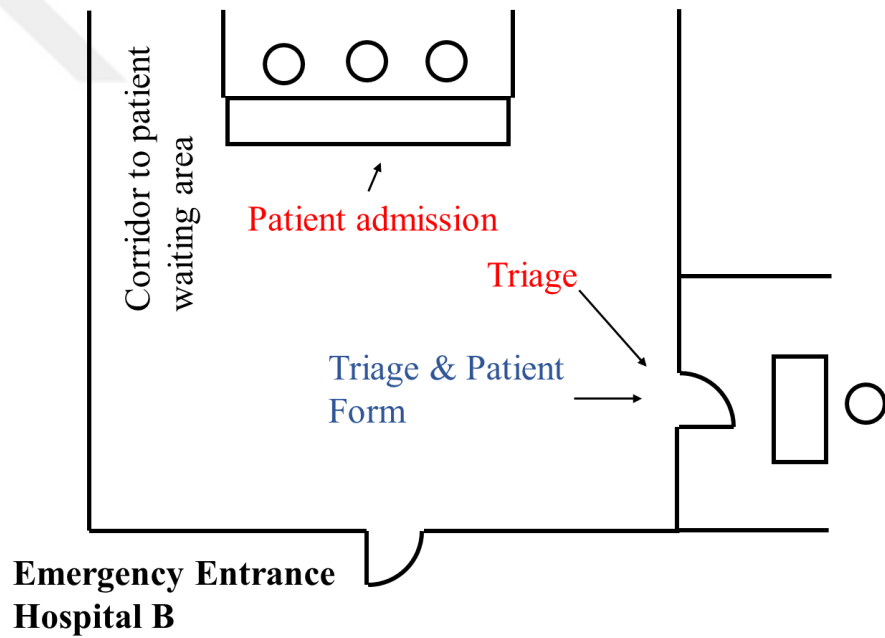
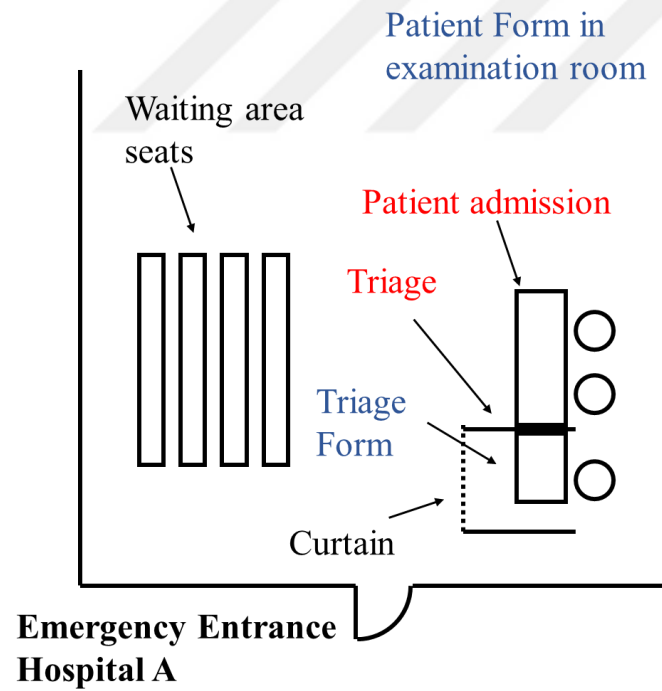


Figure 4.3 : Layout of emergency entrances for Hospital A and Hospital B.

If a patient entering from the emergency door realizes from the signs that triage room is at the right-hand side and knows that triage is the first step of an emergency service, the patient moves towards this room. However, the central location of the admission desk could be fallacious, and patients can move towards this direction, bypassing the triage. Even in that case, the data entry clerk shows the triage room to the patient and asks to perform triage first. I observed that this is not because of the complete obedience to rules and norms but constraints arising from the material structure.

In Hospital B, different than Hospital A, patient forms (two-sided one page with a green heading) for green area patients are located only at the triage desk. Also, there is not any form (like the small triage form in Hospital A) in the emergency service that could be used to record patient data. So, non-availability of such a form in the examination rooms constrains directly recording patient to the HIMS. The distance between the admission desk and triage desk also inhibits the emergence of a practice, similar to the one in Hospital A.

Other than my observations, I also asked how triage is performed during the interviews. One of the nurses answered this question as follows:

This building had only one floor two years ago [mentioning 2016]. This second floor was built later on. ...While this building was only one floor, the triage and the admission were next to each other, and now they are separate. The triage area was in front of the current location of CS [cardiovascular surgery] downstairs. During those days, if the emergency service was crowded, data entry clerks also performed triage, and we did not check for vitals (Interview, Hospital B).

As informed by the interviewee, this separation triggers inhibiting triage done by data entry clerks. Moreover, I also question if this new design of the layout is an inscription of rules in order to conform to the triage practice introduced by the law. However, another observation and interview also falsify this.

As indicated in the interview, Hospital B has two floors, and there is the other entrance in the basement, which was the main entrance before the second floor's construction. After the transformation of the emergency department, this entrance is named as ambulance entrance and was intended to be used only by ambulances. However, outpatients sometimes use this entrance to enter the emergency department. At this floor, there is a corridor behind which a yellow area is located. In front of this yellow

area, there is a patient admission desk. During an interview, a data entry clerk at this desk mentioned that:

Sometimes, patients do not enter from the door at the upstairs and use the door on this floor. In that case, in order to not to direct the patient upstairs, we need to perform triage here (Interview, Hospital B).

There is a bulk of empty yellow patient forms [two sided two pages with yellow heading] placed on the table (Fieldnotes, Hospital B).

Accordingly, I can argue that physical layout is one of the factors that participate in the emergence or extinguishing of practices through exercising power.

I cannot claim that in every emergency department, there are shifts from the conventional triage practice as this case is limited with two samples. However, changes in the OPE questions and the interviews at the MoH support the claim that such shifts in the practice aggregate among the field and trigger an institutional change. According to my analysis, the central question “Is triage performed at second and third-level emergency departments?” remained in between 2015-2018 in the question sets of OPE. However, a new sub-question was added to this main question in 2018, “Triage should be performed before patient admission.” When I asked the reason for this change, an officer of the MoH answered this question as “before admission, vital signs of all patients need to be checked at the triage area. However, this was not performed” (Interview, MoH). This example shows that one the reason for an institutional change could be very material properties participating in everyday organizational practices.

4.5.2 Power-based mechanisms for patient admission

For outpatients, patient admission should follow triage theoretically; however, in some cases, it becomes the first step of the healthcare process in the emergency services as mentioned above. Patient admission is a sociomaterial practice that includes recording patient data to the HIMS. Before this step, data entry clerks ask for the ID Card of the patients, which is also a requirement by law. In Hospital A, this requirement is also mentioned on the signboard as “in our hospital, other than emergency situations, patient admissions requests without ID Card will not be accepted” (Fieldnotes, Hospital A).

It is a little bit weird to see the phrase “other than emergency situations” at an emergency department, but as mentioned before, lots of polyclinic patients without an

emergency situation also apply to these departments. On the other hand, sometimes patients without an ID Card can apply to emergency departments. In such cases, data entry clerks improvise for a solution and solve this problem with the affordances of HIMS. Data entry clerk asks for the patient's ID Number and writes it to the HIMS. HIMS is able to take data from a national database and show details about this ID Number such as the name of the father and mother. Following that data entry clerk ask patient his/her father's and mother's name, and check it from the screen. If it is correct patient is recorded to HIMS and data entry clerk try to convince the patient in the way of not coming without the ID Card again to the emergency department. By this way, sociomaterial practice is kept in parallel with regulations.

During patient admission, in addition to the patient's ID Number, data entry clerks need to record also address and phone number to HIMS. The system constraints, leaving these information fields empty and does not allow to complete the patient admission form. I observed that some data entry clerks filled these information fields with dummy data and distorted the database. For example, "data entry clerk writes 2222222 to the phone number field of all patients to hurry up without asking their phone number" (Fieldnotes, Hospital B).

After recording the patient to HIMS, the patient is directed to the related areas such as green and yellow. In addition to this, queue number is given to the green area patients at the patient admission desk, and these patients then start to wait for their turn at waiting points. Yellow area patients, on the other hand, attend directly to the related area of the emergency department.

A number of patients coming to the emergency departments can vary depending on hours of the day, days of the week, according to holidays and also seasons. Sometimes long queues appear at patient admission desks. The waiting halls and spaces in front of patient admission desks can be very chaotic. For example, one of the patients waiting in the emergency department exaggerated his situation in order to have a priority as "I will throw myself into a ditch. They even show interest to the dogs in the ditch, but they don't do it to us" (Fieldnotes, Hospital A).

When severe health situations, the impatience of some patients and their companions added to this chaotic picture, it is possible to witness raised voices, outcries, and violence as well. The MoH and decision-makers at the emergency departments try to

manage this situation by increasing the speed of the services and preventing the disorder through defining new rules, improving resources, and introducing new technologies.

However, this does not preclude struggles. Some of the patients or patients' companions ask for privilege and priority to reach the health services provided in the emergency departments and force the staff accordingly. For example:

[While talking during a break] one of the nurses pipe-up with there are green area patients who have priority like an elder, pregnant, strong {smile while telling this} people. For example, they come with their eight companions and order to give their patient priority (Fieldnotes, Hospital A).

In the yellow area, in both of the emergency departments, one companion can accompany the patient for assistance in case of any required situation. This is not a written rule but is commonly considered as usual during the patient admission practice. For instance, one of the physicians says:

We must accept companions of patients in order to help them to move around in the emergency department. We do not have enough staff to help each patient. We try to allow only one companion for each patient (Interview, Hospital B).

However, companions of some patients can be insistent on accompanying their patient altogether. For several cases, I witnessed these companions negotiating with the security officers in order to get into the restricted areas.

One of the companions of a patient tries to enter into the red area; however, the security officer does not allow this. After negotiation, the patient's companion gets angry and punch the door of the red area (Fieldnotes, Hospital B).

Managers of the emergency department also tried to control to pass through restricted areas by placing a card-pass system to the double-leaf swing doors. However, in some cases, this precaution remains inadequate as these doors could be distorted by the people coming to the emergency department. One of the physicians, for example, complained as:

[Reason of] deactivating the card-pass system might be that patients could not tolerate this. Ultimately {gesturing like "you know"}, our patients split the door {showing with hands opening a double-leaf door} and can get in (Interview, Hospital A).

The exercise of coercive power towards material structure could go beyond distortion. In case of some struggles happening at the patient-admission halls, they could break-

down of artifacts and parts of the layout. In one case, I observed a non-functional broken door, separating the patient admission hall from the green area. This observation clarified a conversation that I had with the auditor during an audit:

[While moving around in the emergency department and checking the questions in OPE the auditor asked me] do you see this? [showing the iron door] {by smiling}, this hospital is different. During my visit to Hospital X [telling the name of a public hospital located at a socioeconomically developed district of the city], I saw a door made up of glass separating the same two fields. When I asked them, does it function in case of any struggles, they answered as we have not witnessed such things in this emergency department, here is X [telling the name of the same district] (Audit, Hospital A).

Security officers may be unable to prevent struggles and violence in some cases. However, they mostly take a substantial role to maintain the order at emergency services. They try to restrain patients from passing towards the examination rooms before their turn.

A security officer waits in front of the door which communicates with the examination rooms of green area. The officer checks the numbers displayed on the queue machine and the numbers written on the papers that patients have (Fieldnotes, Hospital A).

In order to solve the problems arising from the disorders stemming from crowds and violation of rules regarding passage towards restricted areas of the emergency departments, the MoH aims to regulate the hospital administrations through OPE. In 2018, two new questions were added to OPE. The first question asks hospital administrations to monitor the number of patients appealing to their emergency department through HIMS and act accordingly “In order to decrease the crowd, the number of patients appealing to green, yellow and red areas need to be analyzed hourly, and support should be provided by additional staff for the most crowded hours”. The second question is to restrict passing in between different zones of the emergency services “Doors inside the emergency department should operate with a control mechanism, and the authorization of the emergency department staff should be defined to this mechanism”.

The MoH also defines the layout of the emergency departments’ entrances in terms of their position and arranges patient admission for red area patients. According to the regulations, ambulance and patient entrances should be apart from each other. By this way, it is aimed to avoid the crowd at the ambulance entrance, which may cause problems to take the patient into the emergency department. However, this rule has

different reflections at the practical domain because of opposing power-based mechanisms arising from the regulations and the material structure of Hospital A and Hospital B (see Figure 4.4).

The door for ambulances is at a dead-end, nearly 50m away from the in-hospital road. There is a barrier at the junction point of this dead-end and the in-hospital road. In front of the entrance, there is a pavement sign for ambulances, disabled people and the police. A card-pass system and a security desk are placed at the entrance. This entrance opens up to a corridor that combines resuscitation rooms and medical observation rooms (Fieldnotes, Hospital A).

The door of ambulance entry is located next to an in-hospital road which combines the main hospital building with a polyclinic building and at the ground floor. The door is kept open, and there are benches outside the entrance. There is a security desk on the left-hand side of the entrance, and there is a waiting hall past this desk. This entrance was the main entrance of the emergency department for both ambulances and outpatients before the construction of the second floor (Fieldnotes, Hospital B).

Location and configuration of the ambulance entry of these two buildings are very different. In Hospital A, distance from the main road limits the access to ambulance entrance for pedestrians. Moreover, the ambulance door of Hospital A is at a dead-end, closed with a barrier and is less visible than the one in Hospital B. In addition to the accessibility of the ambulance entrance in Hospital B for pedestrians, the sitting benches located forefront indicate people to use of this entrance. This door's historical position for Hospital B, as being the main access point of the emergency department, also normalizes the use of this door by the pedestrians and outpatients. Moreover, the layouts of these entrances are different. In Hospital A, the ambulance entrance end with a corridor which is to combine red area rooms. On the other hand, ambulance entry of Hospital B is a hall which is appropriate to stand and wait.

Accordingly, while the regulation achieves the goal aimed in Hospital A as the material structure supports it, the outcome is entirely the opposite in Hospital B because of the architectural situation.

4.5.3 Power-based mechanisms for data entry – collection

There are two major administrative processes at emergency departments auditing by PS and OPE and monitoring of daily operations by hospital managers. Both of these processes are dependent upon data entry – collection practice. This sociomaterial practice is essential for PS in order to make correct measurements and prevent possible

legitimacy problems arising from miscalculations and wrong findings. One of the decision-makers at the MoH designing PS in 2012 mentioned about the initiation phase of the evaluation system as:

Do you know what our biggest problem was? Reaching accurate and high-quality data...while we were implementing Performance Scorecard, we need to consolidate data coming from different sources and accuracy of this collected data require validation...We were extracting some of the medical data from the BHSM [Basic Health Statistics Module]. People who are reporting data to BHSM are not that much skillful. For example, instead of recording 10, 100 was mistakenly recorded. Because of that, we cannot be sure about the accuracy of BHSM and use its data after verification (Interview, MoH).

BHSM can be considered as the first national data system in healthcare that collects data from hospitals. This data is then stored at a central database, used for calculating several statistics and as a source for decision-makers at the MoH. The most prominent weakness of these systems is its requirement to manual data entry, which may lead to mistakes and manipulations. Data entry clerks and related units of the hospital extract data from their HIMS, which operates locally and transfer this data to BHSM manually. There are some control mechanisms limiting illegal data entry, such as restrictions to enter a vast number or disallowing enter text into a numeric field. However, such controlling mechanisms could be inadequate and provide room to human-based problems.

During the first years of PS and OPE, information used in auditing is solely dependent on the data collected by BHSM. Auditing hospitals through self-reported data unavoidably cause problems and conflict of interest. In addition to unintended mistakes, in some cases, databases are distorted intentionally by the hospitals. For example, such problems were mentioned during the training of auditors as:

The trainer showed a table presenting mortality numbers in emergency departments and asked the trainees. Why do you think the mortality ratio of this hospital increased drastically? {silence following a soft smile} Because the data entry clerk started to record mortality numbers to BHSM (Fieldnotes, Training).

The MoH defined some rule sets, enabling them to identify unrealistic data and clear it from the database before using it in PS. For instance, a responsible from PS explained one of these clean-up protocols as “we classify hospitals as A, B, etc. according to their sizes and then check their data. If there are any peak values among them, it is probably either incorrect data or manipulation” (Interview, MoH).

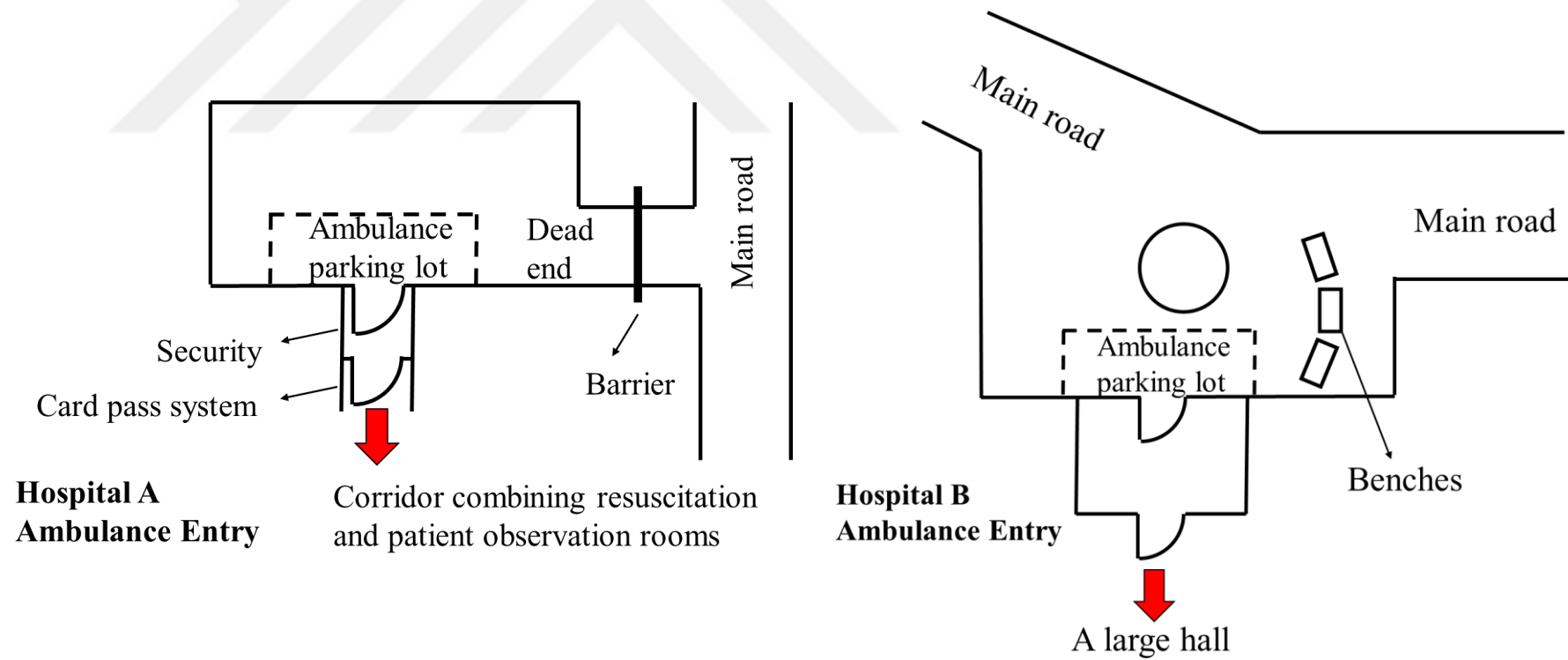


Figure 4.4 : Ambulance entrances for Hospital A and Hospital B.

Such protocols enhance data quality to some extent; however, it is not easy to completely prevent problems. Tens of protocols need to be implemented to find out unrealistic data, especially the one that is close to the regular pace of life in hospitals.

Some hospitals really take data related processes seriously. I saw interesting examples. For instance, an administrative physician realizes that two clinics continuously transfer a patient to each other. If you try to define rules to detect such cases, you can define numerous, millions of rules...we could not be able to get any data from the field when we define such rule sets while extracting data. Then we decided to loosen these rules a little bit and tried to identify who are making mistakes, at which steps repetitively and focus on to correct these cases...however at the end of the day, such things do not solve the problem as it is dependent on humans (Interview, MoH).

In order to prevent human-centered problems in data entry and data collection, the MoH released standards rendering different information management systems to communicate with each other. In the past couple of years, all hospitals adapted their information management system infrastructures according to these standards, and the National Health System (NHS) emerged as the new approach of managing national health data. For example, Laboratory Information Management System (LIMS) and Picture Archiving and Communication System (PACS) that support related processes from doctors' request to monitorization of results became able to communicate with HIMS of the hospital. Medical equipment such as blood analyzers, magnetic resonance (MR) and computerized tomography (CT) can also directly send their data to LIMS and PACS, respectively. Within all these data transfer processes, time logs of each operation are also recorded by the systems apart from human intervention. Moreover, the MoH started to extract data from HIMSs of hospitals regularly and transfer it to NHS.

Automatization of the practices within hospitals, and thereby, emergency departments, decreased the level of participation of humans to data-driven operations. So, the MoH decided to make use of this technological infrastructure in PS and OPE. The trainer announced this new decision to the auditors as “next year, the data source of Performance Scorecard will be changed from BHSM to NHS in order to remove human factor” (Fieldnotes, Training). A responsible officer mentioned the difference from the past as “in the past, data was entered through BHSM. This data was manually recorded. Wrong data or data appropriate to the interests of hospitals could be recorded. We are now gathering this data from NHS” (Interview, MoH).

Implementation of NHS does not just transform the material structure of hospitals. It triggers change at the institutional level through its different aspects. This transformation reflects on regulations and causes the emergence of a new surveillance mechanism. First of all, the MoH obliges the implementation of “Administrative Follow-up Screens”, which is an interface showing statistics about practices such as a total number of patients applied to the emergency department, periods of time between examination requests and results, number and type of examinations requested, etc. Following that, the MoH added questions to the OPE in 2018, in order to ask the use of these screens. The information on these screens are available to both hospital managers and related officers at the MoH and is used to monitor practices. An officer of the MoH explained it as:

One of the novel things in OPE is “Administrative Follow-up Screens”. Medical, administrative, and financial data can be monitored from these screens. This data is gathered from HIMS. According to this information, hospitals can respond to the problems in a short while. For example, these screens can show which physician requested which examinations for how many times. If a physician can see that he/she asked for an examination more than the other physicians, he/she would be ashamed (Interview, MoH).

Moreover, with the opportunity to measure the duration of practices through time logs, recorded automatically by interconnected systems, the MoH added new questions to OPE asking the measurement of service durations. For example, “time between hemogram request and approval of the test results should be measured for patients”, “time between CT [computerized tomography] request and approval of the CT report should be measured for patients”, “actualization of consultations [examination of an emergency patient by a physician from another specific department] requested by the emergency department should be physician-based, measured and analyzed”. These time intervals are dependent on physical and chemical rules, on which the analyzing and imaging technologies rely.

4.6 Theoretical Model Showing Power-Based Mechanisms

The empirical findings represented in this chapter support the theoretical model in Figure 4.2 showing power-based mechanisms take part in shaping sociomaterial practice and changing/maintaining social and material structures.

4.6.1 From social and material structures to sociomaterial practice

Power-based mechanisms that arise in the direction of social and material structures towards sociomaterial practice can be examined in two groups: *social conditioning* and *material conditioning*.

Social conditioning is an enduring source of power, emerging through control of social structures over sociomaterial practices. Social conditioning is similar to the systemic sources of power in the literature (Lawrence et al, 2001; Lawrence, 2008; Fleming and Spicer, 2014). Social conditioning is employed indirectly to the interactions between humans and materials. According to practice theory, the term “practice” refers to the patterned behaviors which consist of bodily and mental activities, using things, ways of thinking and the basic knowledge on material aspects (Reckwitz, 2002). Therefore, like in the definition of practice in practice theory, instantiations of social structures frame human behaviors and thus, sociomaterial practices. In this empirical research, I identified three power-based mechanisms causing social conditioning and called them to *normalize*, *regulate*, and *populate*.

Normalize is about embracing a position in society and being a part of that social order. In other words, it is like interiorizing an act that defines expectations arising from the commonalities of a collective. So, this social conditioning mechanism is defined as norms that legitimize particular sociomaterial practices. Therefore, this disciplinary mechanism (Foucault, 1977), frames the way of doing things in a particular context and may stem from different levels of the social structure. In the empirical context, I observe social norms, professional norms, and local norms as these levels. Social norms are related to morality that is shaped by shared beliefs, values, and meanings shared in society (Scott, 2000; 2001). Social norms can outline sociomaterial practices by defining the appropriateness of behavior in a context. Professional norms, on the other hand, emerge as a disciplinary mechanism that is employed through beliefs, values, and rules that are imprinted to professions (Leicht and Fennell, 2008), controlling the actions of individuals with their professional identity. At the lowest level, I observed local norms that refer to habitualized and legitimized actions within the local context. Repetitive actions, in the long run, gain meanings, set expectations from the others, and provide stability to the sociomaterial practice.

Sociomaterial practices are also controlled by rules that come out with sanctions in case of nonconformity. I conceptualize this power-based mechanism as *regulate* in the model and define it as written rules that authorize particular sociomaterial practices and punish non-compliances. Regulations are outlined by macro-actors such as individuals or collectives in ministries or bodies affiliated to ministries. Authorized actions in a context are defined, which regulates the domain (Clegg, 1989) constituted by sociomaterial practices. Therefore, while normalized actions can be considered as self-decisions originating from “identity and selfhood” (Fleming and Spicer, 2014, p. 244) and apart from any written rule, regulated actions have predefined written forms and end results, such as conformity or penalty.

The third power-based mechanism, conditioning sociomaterial practices, is *populate*. This mechanism is related to the population’s demographic characteristics like the number of people in a society, average age, sex, and ethnicity. These characteristics are dependent on past interactions in social structure and effect on sociomaterial practices through “conditioning the context of action” (Archer, 1995, p. 77) and in that sense, populating a domain of action is considered by its target as neutral and unavoidable. For example, one of the reasons for the difference between providing healthcare services in a relatively small country like Sweden and a crowded country like India arises from the population and its characteristics.

Similar to social conditioning, material conditioning is also an enduring source of power that controls sociomaterial practice, relying on material structures. These structural properties can emanate from natural sciences such as physical and chemical properties or results of past interactions between humans and materials that are “captured” (Pickering, 1995, p. 17) in materials such as architecture. These structural properties provide a canvas to actual human – material engagements. I find out three power-based mechanisms such as *enable*, *constrain*, and *embody* that stabilize the sociomaterial practices through material conditioning.

Enable as a power-based mechanism is exercised by a material structure that allows a material’s use as a medium to achieve the goals. Accordingly, enabling relies on “affordances” (Gibson, 1986) of materials such as artifacts, devices, ISs, and layout. Material structures provide information and energy in a continuum within a particular context and support particular sociomaterial practices. Leonardi (2011) argued about the structural properties of materials (he focused on technologies in his paper) as

“technologies have material properties, but those material properties afford different possibilities for action based on the contexts, in which they are used.” (p. 153). Similarly, I found that sociomaterial practices, enabled and guided by power-based mechanisms arising from material structures, become routinized in the long run.

On the contrary, with a similar power-based mechanism, material structures limit sociomaterial practices that I named as *constrain*. Inabilities, blockage, and isolation can be counted under this mechanism. Inabilities of materials limit the sociomaterial practice, in case of attempts to discover contours of affordances provided by material structures. In these cases, the material cannot support the sociomaterial practice as a medium because of its lacking capacities. Because of this resistance, it is impossible to achieve purposed goals (Pickering, 1995) that could stabilize the sociomaterial practice in an unintended way. The other two types of constraining are blockage and isolation, the former allowing human – material engagement and restraining the sociomaterial practice to be performed in a particular way, while the latter controls sociomaterial practice through intercepting this engagement. In other words, in case of a blockage, there is information about a possible interaction. In the case of isolation, on the other hand, the information about a possible interaction is constrained because of the material structure. For example, while a barrier inhibits the movement between two points, but informs that the point behind the barrier is accessible, placing a physical distance inhibits this activity through cutting all information communicated from the counterpoint.

The last power-based mechanism is about embodiments of materials and, therefore, conceptualized as *embody*. Embodiment comes out with structural and physical properties of materials. In other words, it is the capacities of materials, causing discontinuities, disturbance, or any kind of interruption for humans taking part in sociomaterial practice. So, this power-based mechanism has outcomes in the opposite direction of isolation. An embodiment may let the sociomaterial practice to proceed in a particular way by providing continuous information. For example, the color or transparency of the material, the frequency of a sound or the size of an artifact could take attention and induce particular sociomaterial practices.

4.6.2 From sociomaterial practice to social and material structures

Power-based mechanisms can emerge episodically from the actual engagement of humans and materials within sociomaterial practices and may change or maintain social and material structures. I aggregate these mechanisms under two groups and name them as a *social elaboration* and *material elaboration*.

Social elaboration is regarding the change or maintenance of social structures through sociomaterial practices. The social structures are composed of layers (Mouzelis, 2008). Therefore, practices could change the social order in the closer context, but this can spread to the institutional level (Smets et al, 2012). Sociomaterial practices could be evolved as a result of human – material engagements (Leonardi, 2011), which can trigger institutional change. In this process, I identified three types of power-based mechanisms causing social elaboration such as: *negotiate*, *force*, and *ignore*.

Negotiate is employed through interactions within the people that shape the perceptions and beliefs (un)complying with norms and regulations. This type of power-based mechanism has been acknowledged in the extant literature as attempts to persuade the other and convincing the target to do things that they otherwise do not do (Foucault, 1977; Clegg, 1989). I witnessed interrogation, elucidation, manipulation, and exaggeration as different tactics of negotiation. Interrogation is mostly about getting correct information in different ways, including the use of ISs and act accordingly. Elucidation is employed to rationalize the situation and convince others. According to my observations, these two negotiation tactics are embraced to maintain the social order. Manipulation, on the other hand, is used to align the issues under debate within legitimate limits. On the other hand, exaggerate is employed in an opposing way and includes made-up or strong expressions in order to take attention. Different than the first two, manipulation and exaggerate are more about resisting the existing social order.

Force appears as the second power-based mechanism in the social elaboration and can be defined as restraint or violence exercised verbally or bodily towards the people in line with or against norms and regulations. Such form of power is sufficient to reach goals in a short while (Lawrence et al, 2001). Whereas this type of mechanism is rare in the literature (Lawrence, 2008), it can be observed in the empirical setting so frequently. Verbal or bodily intervention can take the form of restraining and violence.

While the former one is about coercively aligning the sociomaterial practice to the social order, the latter involves resistance to the existing conditioning mechanisms of the social structure.

The third power-based mechanism that I identified in this group is *ignore*. Ignorance can be explained as carrying on existing activities in order to reach self-interests regardless of norms and regulations. This power-based mechanism emanates when actions set apart from the legitimate way of doing things. Therefore, ignorance has a resistive nature and can be considered as a response to institutional pressures. Actors passively challenge with rules and seem to “adopt them ceremonially” (Meyer and Rowan, 1977, p. 340) without carrying out necessary practices.

Material conditioning is regarding alterations in the material structure of the context as a result of sociomaterial practices. While these changes are considered as a new design of a material (e.g., Leonardi, 2011, Raviola and Norbäck, 2013) or a building (e.g., Jones and Masa, 2013), I noticed alterations that vary from a small change of the record in the database to fundamental modifications in the infrastructure requiring exercise of power. Any of these alterations have practical implications. I labeled power-based mechanisms of material elaboration according to the size of the change in the material structure and defined three types of material elaboration such as *revise*, *redesign*, and *transform*.

Revise emerges when there is an intervention to the internal integrity of material structures. As a result of revise, physical or chemical properties of material structures are changed. Moreover, a revision may have minimal or no effect on postdating actions. The revision can be in the form of using, disruption, distortion, and fixing. In case of use, structural properties of the material change minimally because of wear. For example, the use of a door, an IS, or a paper slightly changes the integrity of the material. On the other hand, disrupt and distort differ from each other through their eventual outcomes. Disruption counts on the breakdown that impairs the integrity of a material structure irreversibly. For example, breaking the door requiring the renewal of it or a part of it or corruption in the database with no possible recovery is a disruption. On the other hand, in the case of distortion, the integrity of the material structure can almost be regained mechanically or digitally. For example, in case of distortion, the double-leaf door works appropriately after you twist it to pass through or missing/wrong data entry is corrected automatically by an algorithm. For the cases

that loss of this integrity is inevitable, these material structures are fixed in order to sustain the existing material order.

The other power-based mechanism is a *redesign* that appears when the architectural structure of a material is adjusted that might possibly rearrange interactions between humans and materials. Different than revision, such alterations have a mid-level effect on the following actions in the context as the sociomaterial fabric has to be organized again. Redesigned materials can be the layout of a building, interface of an IS or the outline of an artifact. On the other hand, the use of a material mentioned under revise and redesign are highly related and can follow one another (Leonardi and Barley, 2008). For example, the outline of a patient form or rule sets in an IS can be redesigned to fulfill the requirements of the hospital following their use.

The third power-based mechanism for material elaboration is *transform*, which can be defined as a complete renewal of material structure within a particular setting. Such alterations are highly effective in the change of postdating sociomaterial practices in the context. Accordingly, several studies in the literature focus on such transformations, such as technology implementations, as it marks a time in a continuum that defines a starting point to the research (Leonardi and Barley, 2010). Renewal of the IS or construction of a new floor to a building can be considered as examples of transformation.

4.7 Discussion of the Case Study

In this chapter, I acknowledge power-based mechanisms arising from both the social and the material realms. In order to balance my focus and consider both sides equally, I embraced sociomaterial perspective with a critical realist approach (Leonardi and Barley, 2010; Leonardi, 2013; Mutch, 2013; Tuncalp, 2016). Accordingly, I do not solely consider the symbolic role or social value of materials, but also, I examine and try to understand the physical aspects of materials and their participation in power-based mechanisms.

In order to examine power-based mechanisms that rely on structures and agentic relations in sociomaterial practices, it is crucial to examine “stratification and emergence” (Mutch, 2013, p. 36) and understand causal links of the mechanisms in the empirical context. Therefore, time is a necessary construct that needs to be

considered. Accordingly, I conducted longitudinal research and developed a diachronic model (Barley and Tolbert, 1997). This helps to differentiate structural power-based mechanisms, conditioning the sociomaterial practice from the episodic ones which are employed to change/maintain social and material structures.

I also followed a synchronic analysis strategy (Barley, 1984) and conducted empirical research in two similar emergency departments. This research strategy is essential for two reasons. First of all, although the results of such qualitative research are not generalizable, findings from two parallel cases help to argue stronger claims at the end of the research. Secondly, the observations from two cases support to pinpoint deviations and identify power-based mechanisms more clearly. A mainly neutralized and normalized power-based mechanism (Flemings and Spicer, 2014) relying on materiality is challenging to reveal and requires such a research strategy at the empirical site.

While everyday practices in organizations have the potential to change social structures (institutions) (Smets et al, 2012), my findings show that materiality actively participates into this process through power-based mechanisms. In the literature, it is argued that power originating from social structures and actions can be combined and employed at the same time (Lawrence et al, 2001). Similarly, power-based mechanisms emanating from material structures and sociomaterial practices can participate in institutional processes concurrently. I find out that whereas social conditioning arising from institutions control the sociomaterial practice to be stabilized in a particular way, material conditioning can take part in the opposite way. Because of materially driven power, institutional change may have unintended consequences.

This chapter also contributes to the decoupling literature examining the role of power and politics (Kern et al, 2017). While most of the studies focus on the organizational level analysis (Kern et al, 2017), my findings may reveal practice level reasons for decoupling. Power-based mechanisms relying on the social and the material can be helpful in explaining why decoupling from new policies appear differently in the organizations affiliated to the same governance structure. New studies can reveal underlying processes of ignorance that I presented as a mechanism for social elaboration.

Moreover, the embodiment that I put forward as a material conditioning mechanism may have reflections on the studies examining the role of agency in the micro-processes of institutions. For example, Cardinale (2018) theorized that in addition to enabling and constraining, social structures also orient agency in actions. As a contribution to this theory, I can say that material structures can orient actions with their embodiments and direct sociomaterial practice to a particular end. Similarly, power-based mechanisms emerging from the interactions between the social and the material can be used to understand how framings are formed and interpreted during institutionalization of meanings within organizations and fields (Gray et al, 2015).

This empirical fieldwork is not apart from limitations. First of all, collecting data from the healthcare field, especially from emergency departments, could be difficult because of highly sensitive personal information and working conditions under pressure. However, this working environment can also provide advantages as people tend to forget the researcher's existence in the context, which helps to conduct observations in a natural setting.

Secondly, I conducted qualitative research with critical ethnography in two public organizations that provide services. Ethnography could be useful to understand contextual, local, and situational practices; however, this research method limits the generalizability of the findings (Morrill and Fine, 1997). The model could be more salient for similar empirical settings, while new studies would need to be conducted to improve further the model that I developed here.

In conclusion, this empirical research points out the bidirectional exercise of power between sociomaterial practice and its conditioning mechanisms as institutions and material structures. Whereas the extant literature focuses more on the social side of the relations between power and institutions, the exercise of power itself is a material phenomenon (Foucault, 1980b) and examining materiality is crucial to understand and explain how power operates in the changing and maintaining of institutions. The relations between institutions and materials (Pinch, 2008) could be revealed by using the model, developed through the empirical data and can be enriched by further studies by fostering future research in the domain of institutional theory, sociomateriality, and power. Moreover, this model could be abstracted to some extent, in order to cover different empirical settings and new theoretical lenses could be added in order to

capture other micro-constructs that take part in the change and stability of practices' reflexivity (Giddens, 1984; Archer, 2003).

This model, however, shows how practices that arise from everyday interactions could change/maintain institutions and the role of purposeful actors, as institutional entrepreneurs (DiMaggio, 1988) presented in my former empirical fieldwork, is hidden within this model. Therefore, in the next chapter, I developed a theoretical framework, which is inspired by Barley and Tolbert (1997)'s processual model, that elaborates on how institutional entrepreneurs could detach their actions from prevailing practices that are stabilized and conditioned by social and material structures. Moreover, I theorize what are the power-based mechanisms that appear in case of purposeful actions by using power-based mechanisms in the extant literature. Accordingly, the theoretical framework shown in the next chapter relies on extant literature and my empirical findings in this dissertation.



5. DISCUSSION: SOCIOMATERIAL PRACTICE AS THE NEXUS OF INSTITUTIONS, MATERIALITY, AND POWER

5.1 Institutions, Materiality, and Power

How does materiality in practices attend to institutional change and stability? What is the role of power within these processes? Some institutional practices are replaced with new ones in a short time, and some can stay for longer. Gas lamps, for instance, were widely used for lighting of big cities for nearly one hundred years during the 19th century. When Thomas Edison founded Electric Light Co. in 1878 and introduced the commercially viable electric light lamp as a new way of public lighting, the gaslighting industry was already strongly intertwined with the gas distribution infrastructure of New York. This very well-established institutional field, however, was almost entirely changed in a short time because of the electric lighting at the end of the 1890s (Hargadon and Douglas, 2001). On the other hand, as another example, radio broadcasting is still in use, even AM transmission, after more than a hundred years has passed from its first introduction and continue to take part in shaping an institutional field (Leblebici et al, 1991).

Scholars explaining institutional change and stability embrace different approaches such as multiple institutional logics in a field providing room for different actions causing change and stability (e.g. Lounsbury, 2007; Thornton and Ocasio, 2008; Greenwood et al, 2010; Greenwood et al, 2011) or purposeful actions of individuals, organizations and collectives aiming to create, maintain or disrupt institutions (Lawrence and Suddaby, 2006; Schneiberg and Lounsbury, 2008; Lawrence et al, 2011). These approaches predominantly consider social, such as social structure(s) and/or social actor(s), at the focal point. Because of this anthropocentric tendency, materiality remains as an understudied issue for a long time (Pinch, 2008; Lawrence et al, 2013; Raviola and Norbäck, 2013; Monteiro and Nicolini, 2015) and, at most, considered as artifacts in which institutions are inscribed (Czarniawska, 2008).

More recently, institutional studies aspire to explore how materiality participates in the change and stability of institutions with a more materiality centered view. Materials in these studies encompass raw materials, spaces, places, valuables and technology (e.g., Kellogg, 2009; Jones and Massa, 2013; Labatut et al, 2012; Monteiro and Nicolini, 2015; Panayiotou and Kafiris, 2011). Some scholars, for instance, highlight the reciprocal interaction of humans and materials and examine how they shape each other (Raviola and Norbäck, 2013; Hultin and Mähring, 2014) with a practice-based lens (Schatzki, 2001a). While the interaction between humans and materials reflects on institutions as the emergence of new meanings and identities (Jones and Massa, 2013; Raviola and Norbäck, 2013; Monteiro and Nicolini, 2015), its traces can also be observed in the design of new material structures (Orlikowski and Barley, 2001). However, these studies fall short of explaining mechanisms inducing the motive of replacing a practice with a new one.

In addition, some scholars revealed sources of power in institutional change and stability, emerging with the participation of materials. They put forth how materials are used to exercise disciplinary power and how resistive identities and meanings appear through the constitution of materials (e.g., Kellogg, 2009; Panayiotou and Kafiris, 2011; Labatut et al, 2012; Jones and Massa, 2013; Petrakaki et al, 2014; Siebert et al, 2017). Nevertheless, these studies examine humanly ascribed meanings on materials as the driver of changing practices leading to institutional change and stability.

In general, mechanisms of altering interactions between humans and materials that change and stabilize social structures including institutions (Scott, 2001), proto-institutions (Lawrence et al, 2002; Zietsma and McKnight, 2009), and fads and fashions (Wang, 2010; Heusinkveld et al, 2013; Nielsen et al, 2014) are still undertheorized and require further investigation. Therefore, in this chapter, I aim to develop a framework that draws the dynamics of power-based mechanisms taking part in change and maintenance of institutional practices by considering the active role of materiality.

While developing my framework, I embrace a practice-based approach (Schatzki, 2001a) and make use of the concept of sociomateriality (Orlikowski, 2007) that acknowledges continuous interaction between humans and materials (Leonardi, 2011). I weave constructs of institutions, materiality, and power around sociomaterial

practices and gather a framework, integrating these literature streams systematically. My framework is inspired by the processual model of Barley and Tolbert (1997) that draws the links between actions and institutions and Lawrence (2008), sketching the power-based mechanisms of institutional change and stability.

With this framework, my contribution to the literature is threefold. First, this framework acknowledges clear analytical boundaries between the material agency, human agency, social structure, and material structure. These distinctions help to empirically locate different types of socially and materially manifested power-based mechanisms. Especially the mechanisms with material underpinnings are understudied in the extant literature (Latour, 1991; Lawrence, 2008). Secondly, introducing a clear distinction between social/material agency and social/material structure provide a suitable ground to examine how sociomaterial practices can be changed or maintained by institutional entrepreneurs (DiMaggio, 1988; Battilana et al, 2009). Institutional entrepreneurship brings power struggles to institutional fields (Garud et al, 2007) and while there are studies showing links of power relations between institutional entrepreneurs and institutions (Lawrence et al, 2001; Lawrence, 2008), a framework showing power-based mechanisms considering materiality has not been developed yet. Third, this framework cross-fertilizes interrelated literature streams and opens up new opportunities for further theoretical scrutiny. Thus, it will foster studies in less examined research areas of institutional theory such as materiality (Pinch, 2008) and power (Mizruchi and Fein, 1999; Munir, 2014; Hirsch and Lounsbury, 2015; Hudson et al, 2015).

This chapter is organized as follows; first, I draw links between institutional theory, materiality, and power through a practice-based perspective. Then, I develop constructs that define boundaries between social/material and agentic/structural components to constitute different power mechanisms in this framework. After elaborating on how I relate my framework with institutional entrepreneurship, I offer suggestions on using this framework in empirical studies. In the end, I conclude with a discussion of the theoretical framework.

5.2 Practice-based Lens to Link Institutions, Materiality, and Power

Practice theory has been used in diverse bodies of research. While the definition of practice varies among these research areas, scholars of practice theory acknowledge

some common aspects of this phenomenon such as institutions, materiality, and power (Schatzki, 2001a). Accordingly, institutions are defined as ordered interactions in practices regulated by different mechanisms (Jepperson, 1991; Lawrence and Suddaby, 2006). While early studies on neo-institutional theory emphasize the convergence of practices (Meyer and Rowan, 1977; DiMaggio and Powell, 1983), recent focus is moved towards how beliefs and behaviors change (Dacin et al, 2002). Institutional entrepreneurship comes front in explaining the emergence of novel actions, despite institutional pressures through different strategies (Battilana et al, 2009) one of which makes use of available social structures and materials in the way of institutional change (Henfridsson and Yoo, 2014).

Humans and non-humans coexist and relate to each other within practices, where identities and meanings emerge (Schatzki, 2001b), constituting institutions (Berger and Luckmann, 1966). There is reciprocity for the capabilities of institutions and materials in terms of changing and maintaining each other (Pinch, 2008). Materiality actively takes part in the routines of constituting institutions through their affordances and constraints (Leonardi, 2011). The social and the material overlap or separate in practice (Leonardi, 2011), which encompasses the dynamics of power (Leonardi and Barley, 2010).

Power emerges as an aspect of the relationships between continually interacting parties (Schatzki, 2001a; 2001b) and can be outlined as “the beliefs or behaviors of an actor [that] are affected by another actor or system” (Lawrence, 2008, p. 174). Accordingly, power is not something possessed; instead, it emerges as a property of relationships within all practices (Lawrence, 2008). Barnes (2001) also defines the close relationship between practices and power as “to engage in a practice is to exercise a power. [...] the active exercise of a power may equally be called the enactment of a practice.” (p. 28). Practices are controlled and conditioned through enduring systemic forms of power on the one hand and on the other hand, episodic sources of power are exercised that changes and maintains the existing order (Lawrence et al, 2001; Lawrence, 2008).

In summary, the practice-based approach helps to examine institutions, materiality, and power on common ground. In order to draw links between these three, I start off from describing primary constructs constituting the realm of humans & materials. Following that, I will define power-based mechanisms causing stability and change in this realm.

5.3 Key Constructs: Structure, Agency, and Sociomaterial Practice

5.3.1 Social structures & Human agency

Similar to the practice-based definition of institutions (Jepperson, 1991; Lawrence and Suddaby, 2006), social structures can be defined as “regular patterns of interactions” (Martin, 2009, p. 7). In this theoretical research, while I embrace this definition of social structures, I also acknowledge that social structures are composed of different layers depending on how widely they are diffused. Accordingly, social structures involve institutions (Scott, 2001) and also proto-institutions (Lawrence et al, 2002; Zietsma and McKnight, 2009), and fads and fashions (Wang, 2010; Heusinkveld et al, 2013; Nielsen et al, 2014) that emerge on organizational levels, but carry the potential to become institutions, when spread throughout the field. These social structures encompass norms (values, meanings), regulations (sanctions, conformity, and punishment), and positions (statuses and roles) that emerge as a consequence of patterned interactions.

On the other hand, the relationship of social structures and the embedded human agency that changes and reproduces it has long been studied (Barley and Tolbert, 1997; Emirbayer and Mische, 1998; Battilana et al, 2009). In a broad sense, human agency is narrated as the capacity of human actors to change social structures that are conditioning their actions through enabling and constraining (Emirbayer and Mische, 1998). Scholars bringing practice into focus in their researches particularly relate human agency with empirically observable actions. For example, according to Giddens (1984), “agency refers to doing” and is apart from what is intended (p.10). Accordingly, I define human agency as the capacity of doing things for humans.

According to Archer’s morphogenetic approach, social structures and human agency are analytically distinguishable through temporal separation. There are two underlying assumptions for this approach as “structure necessarily pre-dates the action(s) which transform it; and that structural elaboration necessarily post-dates those actions” (Archer, 1995, p. 76). In other words, interactions at any given moment are conditioned by social structures that are enduring elements, emerged as a consequence of pre-dating interactions (Archer, 1995). Moreover, interactions of the past have intended and unintended consequences that objectified throughout time and condition interactions in the future (Archer, 1995). Therefore, interactions of a particular

moment carry the potential to transform or reproduce the prevailing social structure through purposeful actions of reflexive human actors (Barley and Tolbert, 1997).

Human actors carry the analytical capacity that is studied under the concept of reflexivity, which includes consciously monitoring of the self and external environment and act accordingly (Giddens, 1984; Layder, 1990; Mouzelis 1999). Moreover, human actors may have different types of reflexivity, depending on their engagement with the context, according to which their actions change or maintain social structures (Archer, 2003). For instance, institutional entrepreneurs as autonomous reflexive change agents seek to alter structures around them and intentionally employ actions to reach their goals (Mutch, 2007). Therefore, I acknowledge the reflexivity of human agents and consider institutional entrepreneurs as reflexive human actors that have the capacity to change existing social structures.

5.3.2 Material structures & Material agency

Material structures have a “free-standing” (Pickering, 2012, p. 319) ontological being out of our experience (Hardy and Phillips, 2004) that “transcend [...] particular settings” (Orlikowski, 2000, p. 408). Moreover, instantiations of material structures may vary for each new engagement with the human agency (Leonardi, 2012a). Accordingly, Pickering (1995) argued that human agents have the capacity to discover contours of materials which are never decisively known. In this theoretical research, similar to social structures, I acknowledge that material structures are composed of different layers. Human agents discover different layers of material structures during their distinct engagements with them. For example, software running in a computer is coded and stored in a hard drive, which is a part of a broader hardware system. Around this physicality, electricity is established, which is dependent upon physical rules. When we interact with the computer, we face the interface of the software program that is running the hardware, which relies on electricity and physical rules. All the system, other than the interface of the software is hidden and out of our experience. Because of these layers, human agents engaging with the material agency could never interact with the full structural being of material but only its instantiations within the empirical context. Therefore, I conceive architecture (layout, interface, design), physical properties (geometry, form, mechanics, strengths and other micro-level motions) and chemical properties (states, reaction, and other micro-level properties)

as material structures that rely on pre-dating material – material and human – material interactions.

On the other hand, while some studies relate agency to humans by associating it with humanist properties such as reflexivity, intention, and purpose (Emirbayer and Mishce, 1998), scholars embracing performative idiom relate this phenomenon to empirically observable actions (Pickering, 1995; Latour, 2005; Leonardi, 2011). This theoretical stance provides room for material agency. For example, Clegg (1989, p. 188) argues that “not all agents are human actors. Agency may be vested in non-human entities as diverse as machines, germs, animals and natural disasters”. Therefore, it is argued that agency concerns pragmatic implications, transforming or maintaining practices and related with the capacity of “doing things” without essentially reducing it to humans or materials (Pickering, 1995, p. 6). Furthermore, material agency emerges temporally, when instantiations of material structures engage with a human agency (Pickering, 1995).

Human-free definition of agency in performative idiom brings a kind of equilibrium between humans and materials. Whereas there are some scholars acknowledging an exact symmetry between humans and materials (Callon, 1986; Law, 1999; Latour, 1994, 2005), there are still others, claiming an likeness but also an asymmetry (Pickering, 1995, Leonardi, 2011). For example, relying on Taylor et al. (2001), Leonardi (2011) argues that human agency has a “head status” and the material agency has a “complementary status” and emphasized reflexivity of humans (p. 150).

In this theoretical research, I define material agency as the capacity of doing things for materials, and I also acknowledge an asymmetry between human agency and material agency that emanates from inherent characteristics of the two. Reflexivity of human agents is one of the significant differences causing the asymmetry. However, although human agents may have the reflexive capacity that enables them to monitor and purposefully act to reach a particular end, not all humans have the same type of reflexivity, or they may have different types of reflexivities, depending on their engagements with the context, as argued by Archer (2003). Therefore, I argue that not all humans have head status in case of engagement with the material agency.

Some material agents, especially technologies using artificial intelligence and deep learning, may have a similar capacity and gain head status in terms of monitoring and

discovering contours of social structure and perform differently. In that case, human agents may reproduce an introduced set of possibilities by the material agency. For example, a physician may use a decision support system during the surgical operations and regularly act according to suggestions of the system or a fintech system, offering investment opportunities to its users, so that they can guide all the decisions of an investor.

5.3.3 Sociomateriality

Sociomateriality perspective has been presented by Suchman (2002) and was popularized by Orlikowski (2007) and Orlikowski and Scott (2008). It emphasizes the mutually constitutive role of the social and the material entities in practices that help to examine a social phenomenon by doing justice to materiality and not entirely focusing on the social aspects of the phenomenon under focus (Leonardi, 2011).

There are different streams of research, theorizing sociomateriality. The primary theoretical debate is on whether the relation between the social and the material is a duality or a dualism. Scholars embracing duality acknowledge an agential realist ontology, which was introduced by Barad (2003; 2007). According to this theoretical stance, the social and the material are inextricably intertwined and constitutively entangled (Orlikowski, 2007).

The other camp, claiming a dualism between the social and the material, argue that the dualist view of sociomateriality produces ambiguity and empirical problems as the two sides conflate over each other and blur the contribution of the social and the material (Leonardi and Barley, 2010; Leonardi, 2013; Mutch, 2013; Tuncalp, 2016). The critical realist approach of Archer (1995) that was introduced as a solution for the conflation of structure and agency in sociology is embraced by the scholars to study the social and the material separately (Leonardi, 2013; Mutch, 2013). This theoretical stance acknowledges the social and the material entities distinct from each other, and this separateness fade in the recurrent action through time and becomes apparent in case of a change (Leonardi, 2013).

While developing this framework, I embrace the view of this second camp and define the sociomaterial practice as the interaction between human agency and material agency that unfold over time and space. By this way, it becomes possible to examine how defined constructs (see Table 5.1 for definitions) relate with each other within

practices. Relying on Reckwitz's (2002) definition of practice, I argue that a sociomaterial practice is not a single action; rather, it encompasses patterned behaviors that consist of doing things cognitively and physically. Furthermore, while sociomaterial practices are conditioned by social and material structures, they also carry the capacity of changing/maintaining these structures. The relations between sociomaterial practices and surrounding structures constitute different power-based mechanisms.

Table 5.1 : Constructs used in the framework.

Human Agency	The capacity of doing things for humans embedded in social structures.
Material Agency	The capacity of doing things for materials embedded in material structures.
Social Structure	Human–human, human–material interactions predate sociomaterial practice and condition human agency.
Material Structure	Material–material, human–material interactions predate sociomaterial practice and condition material agency.
Sociomaterial Practice	Patterned interaction between human agency and material agency that unfold over time and space.

5.4 Sources of Power for Institutional Change and Stability

There are four types of power-based mechanisms taking part in the relationship between institutions and actions such as discipline, domination, influence, and force (Lawrence et al, 2001). Whereas discipline and domination are systemic types of power controlling actions, influence, and force emerge episodically during the attempts changing or maintaining social structures (Lawrence et al, 2001; Lawrence, 2008). I use the same vocabulary in my framework by extending their meaning that covers power-based mechanisms arising from the relations with materiality (see Figure 5.1).

5.4.1 Discipline

Discipline arising from social structures is exercised towards a human agent, constituting a sociomaterial practice via self-regulated mechanisms of the human agent itself. Interactions with other humans and materials are interpreted and organized as cognitive schemas forming identities and meanings (Howard, 2000). Information

about new situations is processed according to these cognitive schemes. Therefore, discipline “provide[s] the basis for the [human] agency in the form of identity... shaping the actual formation of the subject” (Lawrence et al, 2001, p. 636) and frames the decisions. The decision-maker has the feeling that it is a natural and self-regulated process (Fleming and Spicer, 2014). Accordingly, with this power-based mechanism, once identities are generated from the predating interactions, they provide stability to postdating sociomaterial practices.

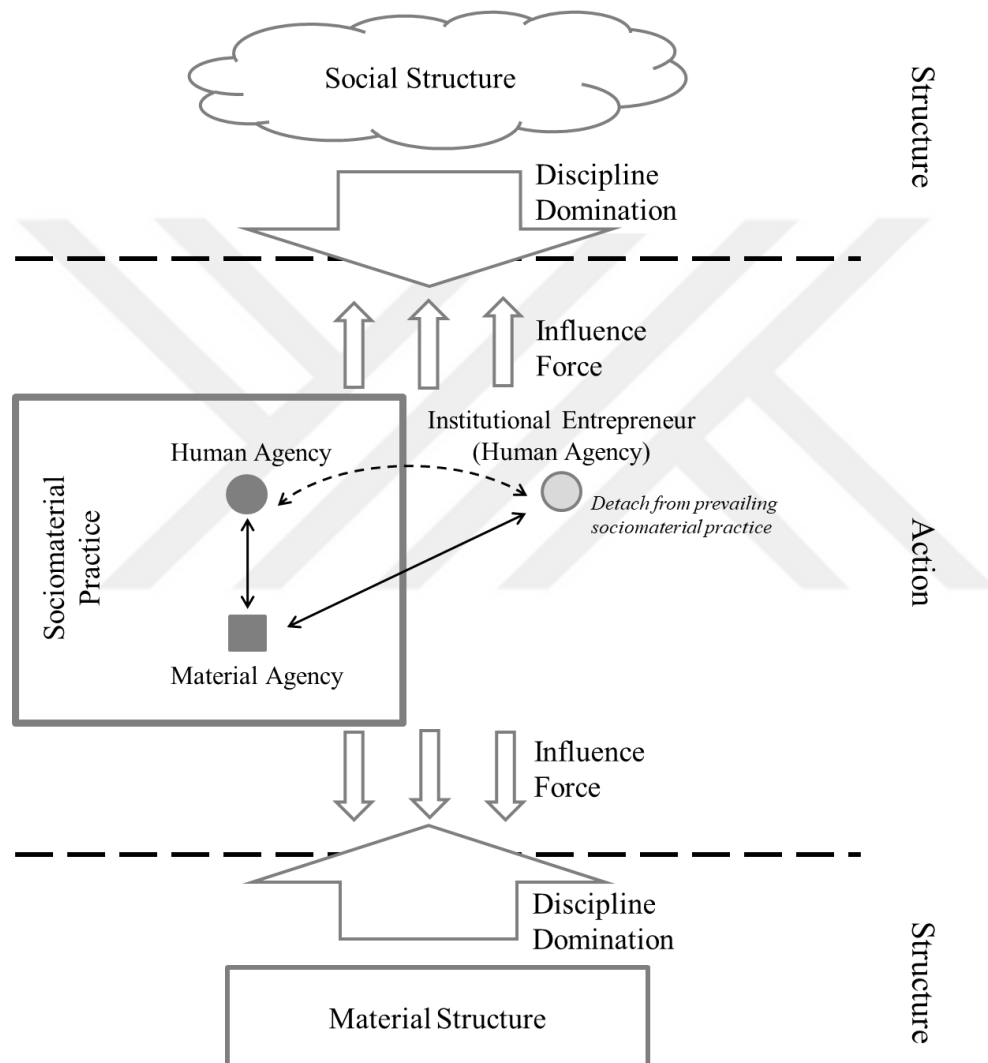


Figure 5.1 : Framework showing power mechanisms in Sociomaterial Practice.

Discipline as a mechanism of regulating selfhood examined in different studies such as prevailing discourse in an organization is internalized among employees (Townley, 1993). Similarly, discourses and practices in an organizational field or broader societal context can be subjectified and disciplined behaviors of actors (Lawrence et al, 2001;

Fleming and Spicer, 2014). These sources of discipline arise from social structures, shape the identity of human agents and, therefore, condition sociomaterial practices.

In this theoretical research, I also acknowledge disciplinary sources of power arising from material structures. Disciplinary effects of material structures can be defined as the information provided by material structures that induce the sociomaterial practice to be directed in a particular way. So, in this case, human agents may have the capacity to act otherwise as the material structure does not constrain all possibilities of different actions physically. Based on this definition, I consider disciplinary effects arising from material structures in three ways: means of surveillance, development of professional identity, and appropriate way of interacting with materials.

As first, the design of material structures enables visibility, supporting hierarchical observation, surveillance, and examination (Foucault, 1977). The uppermost source to exercise this type of power is architectural design (e.g., Dovey, 1999; Connellan, 2013), as it provides means to surveillance. Furthermore, especially with the widespread usage of information technologies, materials become more prevalent in disciplining practices (e.g., Bloomfield and Coombs, 1992; Sewell, 1998; Reed, 2001; Clegg et al, 2006; Hayes, 2008). Presence of some technologies in sociomaterial practices gives information about the feeling of clear visibility and traceability. Such information about surveillance disciplines sociomaterial practices through framing decisions of human agents. For example, we use lots of web sites and computer programs by registering in and identifying ourselves. A simple, single search of a commercial product from your computer is enough to see several advertisements of related products in the web pages we are visiting, on our social media accounts and in our smartphone applications. This unexpected behavior of the systems informs that a surveillance mechanism is running, while we are using information systems; even some of them do not have such a purpose. Therefore, some material structures exercise *panopticon* power through “conscious and permanent visibility” of sociomaterial practices (Foucault, 1977, p. 201).

Secondly, material structures also take part in the formation of professional identities (Leicht and Fennell, 2008) through defining new tasks and roles (e.g., Barley, 1986; Leonardi and Barley, 2008; Leonardi, 2012a; Labatut et al, 2012). New professions or working practices emerge in order to discover contours of material structures. Especially for material structures that have not been taking part in practices, human

agents do not have the complete knowledge about how to avoid or reach to particular ends with the interacted materials. Accordingly, sociomaterial practices are disciplined and kept within the boundaries of an existing cognitive scheme, which is developed through information, arising from material structures. In other words, cognitive schemes cause to treat some material structures in a particular way. For example, in order to prevent injuries from electric shocks, engineers are responsible for the maintenance of the new lighting system. Edison tried to encourage schools to open electrical engineering departments, and he also initiated his training programs (Israel, 1998; Hargadon and Douglas, 2001). While the profession of engineering, as a part of social structure, disciplines sociomaterial practices, in the first years of electric lighting, there was no such profession. On the other hand, rules relying on material structure discipline the sociomaterial practice and provide ground to the emergence of a professional identity.

The third type of disciplinary power, exercised by material structures, is about the appropriate way of interacting with them. Sociomaterial practices as a part of the culture “constrains people’s capacity to imagine alternatives to existing arrangements” (DiMaggio, 1997, p. 268). Material structures discipline sociomaterial practice through systemic information that they provide through their properties such as form, shape, strength, voice, etc. Accordingly, this information imposes what the appropriate way to interact with them is. In other words, information received from the engagement with material structures is compared with the schemes, with which the human agent is already familiar, and the tendency leans towards keeping the sociomaterial practice consistent with the existing cognitive schemes. This cognitive process is triggered by material structures and fosters the maintenance of institutionalized sociomaterial practices (e.g., Jones and Massa, 2013; Steets, 2016). As in the early examples of gas and electric lighting in New York, gas and electric are both generated and distributed centrally, despite the fact that the latter has local distribution possibility. Moreover, as in gaslighting, electric is supplied through underground pipes, while overhead wires were not used (Hargadon and Douglas, 2001).

5.4.2 Domination

Like discipline, domination could be related to both social and material structures. Domination arising from social structures is related to value systems idealizing a particular way of thinking that renders the existing order inevitable and neutral (Lukes, 2005). Accordingly, the prevailing situation is not questioned and challenged (Flemings and Spicer, 2014) as it provides the context for action (Lawrence, 2008). In addition to hegemonic ideologies, actuarial practices are considered as a form of domination like insurance practices, calculating life expectancies according to statistical data (Lawrence et al, 2001). Similarly, the statistical properties of a population could dominate sociomaterial practices. For example, the total number of women in a population is related to the social structure, and these statistics may dominate particular sociomaterial practices, which require the participation of women, like the number of hospitals with gynecology departments in a town.

What is familiar with all source of domination is that of providing no choice for acting otherwise. The exercise of domination as a reified power mechanism (Clegg, 1989) neglects the agentic capacities of the target as it does not require a choice (Lawrence et al, 2001). Therefore, while discipline shapes the choices of human agents in the event of domination, there is only one preference for action at this juncture. Accordingly, the effects of domination reflect on the consequences faster than discipline (Lawrence et al, 2001). Furthermore, like discipline, domination is mostly employed covertly (Fleming and Spicer, 2007) and in case domination is normalized, it evolves from suppressor to facilitator (Clegg, 1989).

Domination is also exercised by material structures. This source of power is employed through physical layout, tools, and technologies (Lawrence et al, 2001). Domination is related to how material structures are weaved with sociomaterial practices (Latour, 1991) and stabilizing effects of these structures, which offer a context for action. Basically, domination is exercised through critical resources that provide essential backing to sociomaterial practice. Through this mechanism, sociomaterial practice becomes dependent on material structures. Thus, human agency constituting sociomaterial practice nullified, and this situation perceived as impersonal and inevitable. Accordingly, the domination of material structures can be defined as the terrain, provided by material structures that render sociomaterial practice possible. For example, physical features of gaslighting render some sociomaterial practices to be

deployed in a certain way, which is the domination of that lighting technology. In most parts of New York, for instance, gaslighting is dominating the field as it is not possible to use electric lighting because of the common prevailing infrastructure allowing only to use gaslighting (Hargadon and Douglas, 2001). Another example can be given to show how material structures that rely on the material – material interactions can dominate an institutional field. Central electricity distribution requires the transfer of electricity to far distances, preferably with minimum power loss to render a commercially viable approach. The alternating current (A/C), instead of a direct current (D/C), makes the transfer of the electricity possible without a significant power loss. This is why the whole world is using A/C instead of D/C for large electric supply, and all other electric equipment is shaped accordingly (Hargadon and Douglas, 2001). While it is easy to focus on resistance to observe power relations (Foucault, 1982), resistance is not a prerequisite of power (Hook 2007). Similarly, it may not be possible to observe this resistance in case of domination as the stabilized situation is considered natural by the parties. In order to understand how domination occurs, one needs to examine the actual situation retrospectively (e.g., Latour, 1991) or in parallel contexts as the stabilized order, established as a result of contingently emerging, various interactions within sociomaterial practices. By this way, the one can identify domination through comparing and contrasting different conditions. For example, all the electronic equipment that we are using now are working with 110 Volt (or 220 Volt) supply, and cablings are three wired. Supplying electricity with these specs is not under question for now. However, it was stabilized as a result of different trials and agentic interactions between humans and materials. Edison's lighting solution was based on a 100 Volt supply that provides similar illumination as gaslighting. Because of "copper loss" (reduction of voltage in long distances) this amount of voltage may not reach to customers. Therefore, Edison supplied the wires with 110 Volts to be sure that at least 100 Volts are available at the end-points. Moreover, the first cabling system, which had been built up of two large copper rods and some insulation materials, was replaced with three wired versions which are more reliable in providing expected lighting (Black, 1983).

5.4.3 Influence

In the extant literature, influence is considered as a power-based mechanism that is related with decision making and non-decision-making processes (Bacharach and Baratz, 1963) and considered as persuading someone to do something that he or she would not otherwise do (Dahl, 1957). Decision making is about cognition that requires processing information which is received from different parties that are being interacted, and interpretation of this information with previous experiences (Albarracin, 2002; McGuire, 1968). Similar to discipline, influence provides room for its recipient's agency but different than discipline, influence is intermittently triggered through episodic interactions in order to direct decisions towards new paths (Lawrence, 2008). Moreover, influence is considered as a "less direct" form of exercising episodic power (Flemings and Spicer, 2014, p. 254).

Influence is pervasively considered as the attempts of human agents in order to maintain and change existing social structures by employing different tactics like moral suasion, negotiation, etc. (Lawrence, 2008). On the other hand, types of influence are also classified according to whether there is a conflict of interest or not between two parties. For example, manipulation is considered for situations, including conflict of interest and encouragement, inducement, and persuasion, for no conflict of interest (Lukes, 2005). While the extant literature considered this source of power in between human agency and social structures (e.g., Lawrence et al, 2001; Lawrence, 2008), I aim to draw the links of influence between sociomaterial practices and social and material structures.

As I treat human agency as a constituent of sociomaterial practice in my framework, I argue that influence emerges as a result of the episodic attempts in sociomaterial practice to change and maintain social structures. In other words, the agentic interactions between humans and materials within sociomaterial practice influences social structures. Replacement of lighting in New York is a good example, demonstrating such influence arising from sociomaterial practice and changing social structures. Electric lighting in New York, as a new sociomaterial practice had gained acceptance initially by relying on the common sociomaterial practice of gaslighting and institutionalized through mimicking the old lighting system. Edison had preferred generating electricity centrally and distributing it through underground lines, as in the gaslighting systems, although producing electricity with generators and selling to

individual customers had already proven to be a successful business. Moreover, during those years, the minimum expectation from the new lighting system was the illumination of streets as good as gas jets. This was equivalent to having a 12-watt bulb, as it was the universal solution at that time. Despite an incandescent bulb's ability to provide more brightness, Edison had preferred to use a 13-watt incandescent bulb to keep it similar to the old system (Hargadon and Douglas, 2001).

Moreover, I also consider episodic sources of power, arising from sociomaterial practices towards material structures. I argue that episodic power-based mechanisms employed that change or maintain material structures. Similar to "less direct" effects of influence between sociomaterial practices and social structures, I define influence between sociomaterial practices and material structures as alterations that have indirect effects on material structures. For example, after the introduction of electric lighting, smoke-free lighting technology gives the opportunity to decorate houses with lighter colors on their walls, ceilings, and carpets. Some architects recognized this new capacity of the electric lighting system, and pioneering examples of houses with brighter interior design had started to appear around New York (Kyvig, 2002). Similarly, the risk of fire was decreased when the city changed the lighting infrastructure from gas to electric that changes the material structure of buildings and their designs (Bunting and Floyd, 1985).

5.4.4 Force

Force is considered as a power-based mechanism that overlooks the target's capacity to act otherwise and appear episodically (Lawrence et al, 2001; Lawrence, 2008). Targets of force do not have a choice and are compelled to act in a particular way. So, force is mobilized directly towards its targets (Lawrence et al, 2001). This source of power has been exercised by authorized agencies such as states, hospitals, and armed forces or illegitimate bodies (Lawrence, 2008).

Similar to influence, force is considered as the attempts of human agents in the way of maintaining and changing social structures (Lawrence, 2008). Force is exercised overtly (Lawrence et al, 2001; Lukes, 2005) and in some cases, physically (Lawrence, 2008). Moreover, it is employed, in case there is a conflict of interest (Lukes, 2005). There are different forms of force studied in the extant literature such as incarceration, seizure of property, dissolution of corporations, and violence (Lawrence et al, 2001).

When we think about bureaucratic sources of force, such as firing, dismissing, confiscating, impeding, etc., or for the cases, where traveling and roaming are restricted physically, consequences of force can be clearly observed. In most of these cases, materiality participates into the exercise of force. Accordingly, similar to my way of considering influence, I acknowledge force as a power-based mechanism that arises in between sociomaterial practices and social structures. Human actors, as change agents, could force others to act in a certain way by possessing or disrupting critical resources. These critical resources are material structures essential for the sociomaterial practice and are required or, at least, thought to be prerequisite to carry out the sociomaterial practice. With the change or disruption of material structure, the human agents constituting sociomaterial practice forced to act in an appropriate manner. For example, a fired employee could not go on to access information related to the company and her/his pass card is blocked or school administration can confiscate mobile phones of students during exams in order to prevent cheating. Another example can be given from the institutionalization of electric lighting. Edison could not bill customers for six months, after installing a new lighting system, as meters measuring electricity consumption had not been ready when he started his business. After manufacturing zinc sulfate meters, Edison became able to force customers for billing (Hargadon and Douglas, 2001).

In this theoretical research, I also consider force as an episodic source of power that emerges as a result of relations between sociomaterial practices and material structures. I define this type of force as changing or maintaining material structures as alterations that have direct effects on material structures. An excellent example of force towards material structures can be given for the case that happened after the introduction of zinc sulfate meters. Following the implementation of these measurement devices, Edison faced some problems as zinc sulfate meters were doubtful when the temperature dipped below 40 degrees as the meters stop working (Hargadon and Douglas, 2001). Moreover, the rate of electric consumption could not be monitored by zinc sulfate meters because of dependencies to the metering characteristics. As a result, customers objected the bills given by the metering staff and started to resist the billing process. Because of this problem, all measurement devices are improved and altered within two months (Gooday, 2004) that directly changes the material structure of the context.

5.5 Sociomaterial Practice and Institutional Entrepreneurship

As a result of stabilizing power-based mechanisms as discipline and domination, human and material interactions within the sociomaterial practices institutionalized and become entangled in the long run. Regarding this stabilization process, Leonardi (2013) argued that “...the social and the material are indeed separate entities that are put into a relationship with one another and come to appear inseparable through human activity occurring over time” (p. 69).

In case of entanglement, some human agents with an autonomous reflexive capacity which are considered as institutional entrepreneurs, detach from the entanglement and exploit the material agency to keep or break path dependency of institutionalized practice with exercising influence and/or force. Drawing on the study of Archer (2003), Mutch (2007) considered the reflexivity of an institutional entrepreneur as autonomous reflexivity and explained it as “internal conversation in relative isolation from the concerns of others ... that has the potential to bring them into conflict with, and seek to change, the structures surrounding them” (p. 1129).

Accordingly, I argue that institutional entrepreneurs, who are reflexively monitoring internal and external environment, attempt to alter the interaction in a stabilized sociomaterial practice, which takes the form of unity between agentic capacities of humans and materials. Institutional entrepreneurs, different than other reflexive human agents (Mutch, 2007), define new practices to support their goals which makes it necessary to interact with causal powers of the structure (Archer, 2003). Their cognitive stage lets them explore agentic capacities of materials and make use of them on the way of institutional change or maintenance.

Strategic activities for changing or maintaining institutions can take part as a planned activity or during the activity itself (Battilana et al, 2009). Different circumstances can trigger a detachment of institutional entrepreneur from the entanglement and initiation of their strategic actions. This triggering event can arise from social realm (Barley, 1990; Davidson and Chismar, 2007), for example, changes such as the emergence of new social rules or institutional multiplicity that may alter experience and motivation of human agents or from abrupt change about material structures. For instance, changes about material structures such as implementation of new materials to processes (Leonardi and Barley, 2010), invention (Pickering, 1995) and innovation

(Hargadon and Douglas, 2001) of new material technologies and break-down of materials (Heidegger, 1996) could cause solution of sociomaterial fabric and carries the potential to initiate disentanglement. Institutional entrepreneurs realize triggering situations as a result of a cognitive analytical process. This stage of mind can start and fade as a mental activity without practical implications or can have practical consequences such as observable actions of institutional entrepreneurs from which episodic power-based mechanisms arise.

The invention of electricity, electric bulbs and innovative use of electricity in lighting can be an excellent example of how such changes in the material realm, which are exploited by institutional entrepreneurs in order to institutionalize sociomaterial practices. The introduction of electric lighting had initiated several cascading changes in a previously stable environment. For example, as gas lighting was producing soot on the building walls, many people were choosing deep, darker colors for the decoration of their houses. As electric lighting had replaced gas-based infrastructures, this preference gradually changed, and new houses started to be built with lighter colors (Kyvig, 2002). As another example, libraries had started to continue their operations after the sunset; initially, they were closed earlier because of the risks of fire due to lighting with highly flammable gas (Bunting and Floyd, 1985). Therefore, electric lighting gives the possibility to extend the working hours of libraries and closing time set independent from daylight (Scherer, 1999). Moreover, with the introduction of the electric lighting, workers responsible for maintenance of the lighting systems needed to cope with power losses, exploding circuits and other new hazards like electric shock accidents, due to insufficiently insulated wirings. These problems lead to the emergence of new training programs in electrical engineering schools (Hargadon and Douglas, 2001).

While changing the lighting practice, although Edison tried to keep the new system very similar to the gas-based old system, the presence of the new material structure had accommodated and resisted human agency differently with its instantiations. As seen in these examples, Edison, as an institutional entrepreneur, introduced a new lighting system that forces the change of material structure and disentangles institutionalized practices. Following this change in the material structure, new opportunities and threats appeared. As mentioned in the example, institutional entrepreneurs such as house designers, library managers and managers of electrical

engineering schools, who are reflexively monitoring sociomaterial practices, exercise influence and force to change social and material structures like introducing new painting colors and techniques, new working hours to libraries, and new schools creating new professions. Accordingly, they define new paths of interactions between humans and materials. These new social and material structures then start to discipline and dominate disentangled sociomaterial practices in the way of their entanglement. Accordingly, I argue that ongoing and reciprocal power-based mechanisms arise between sociomaterial practice and social and material structures that lead to disentanglement and entanglement of the interaction between the human agency and the material agency.

5.6 Using the Framework in Empirical Studies

Similar to all conceptual approaches, the developed framework has some prerequisites, in order to apply it in the empirical settings. As I mentioned earlier in this manuscript, temporality is essential to preclude conflation of structure – agency (1) and social – material (2). Regarding the first one, in order to achieve non-conflation of these constructs, empirical studies relying on this framework need to work with longitudinal data (Barley and Tolbert, 1997). This way, structures (social and material) that rely on past interactions can be grasped, and it becomes possible to examine their implications on present interactions (Archer, 1995). In other words, in the empirical setting, structural constructs of the social realm such as social rules, prior knowledge, and past experiences and structural constructs of the material realm such as forms and design can be distinguished from actual interactions. This differentiation enables the identification of systemic forms of power, relying on structures (discipline and domination) and episodic forms of power (influence and force) relying on actual interactions. Longitudinal data is also essential to pinpoint moments when material agency emerges as a result of its engagement with human agents (Pickering, 1995). Researchers can capture these moments and understand the source of the agent (human or material). By this way, researchers can identify the type of episodic form of power that is employed.

In addition to the longitudinal analysis of practices, observing these practices through ethnography, as well as unstructured and semi-structured interviews with practitioners are also helpful to recognize and understand power relations, emerging in daily

practices (Orlikowski, 1992). Comparative data sources are essential to distinguish whether the sociomaterial practice is conditioned by power-based mechanisms arising from social structures or material structures. Moreover, observations help researchers to capture situated interactions, mundane and strategic activities, deviations, and similarities of the old and the new, encompassing episodic sources of power.

Moreover, in order to examine systemic sources of power, especially domination in empirical contexts, it is better to conduct the research in multiple sites, on multiple levels (Leonardi and Barley, 2010). Comparative analysis of research site can reveal neutralized sources of power that take part in maintaining or changing institutions. The social and physical environment of each locale renders some sociomaterial practices peculiar to this setting, marking a point in the practice on which the researcher can shed light. This way, affordances and constraints (Leonardi, 2011) fading inside these practices become overt. Moreover, comparative research studies also help scholars to appraise situated interactions between human agency and material agency. These situated interactions encompass interpretive flexibility (Orlikowski 1992) of materials which might institutionalize in the long run (Smets et al, 2012).

On the other hand, multiple levels of analysis are essential to understand top-down and bottom-up power mechanisms. From multiple level analysis, I acknowledge data collected from entities varying from individuals to collectives (1) and data collected from actors on different levels of the social hierarchy (2). The former draws the links between focal phenomena and the context showing the consequences of practices on different levels (Hitt et al, 2007). For example, interests may arise as an aggregation of different drivers or resistances encompassing influence and force and may have an impact when it became group behavior (Lapointe and Rivard, 2005). Level of social hierarchy, the latter, is related to individuals, whose impact on society is considerably larger than the others (Mouzelis, 1995, 2008). For example, the influence of the CEO in a company exercises more power on sociomaterial practices than an ordinary employee.

5.7 Discussion on the Theoretical Framework

Practices emerging from the interactions between humans and materials are shaped as a result of this engagement (Orlikowski, 1992; Leonardi and Barley, 2008; 2010; Leonardi, 2011). In other words, these interactions carry the capacity of changing or

maintaining practices during whichever power emerges as a property of the relationships (Clegg, 1989). The developed framework in this chapter aims to provide a new lens for scholars, studying the role of power-based mechanisms in institutional change by questioning the underpinning materiality. Power mechanisms encompass both social and material constructs taking place in the creation, maintenance, and disruptions of institutions. My framework is inspired from Barley and Tolbert (1997)'s model that shows how actions and social structures (institutions) relate to each other and Lawrence (2008), who draws how systemic and episodic sources of power are employed in institutional politics.

Power is considered with its effects on the outcome (Kanter, 1977), more specifically it is defined as to affect "actions and the decisions that precede [outcomes]" (Mintzberg, 1983, p. 4). This view of power involves politics that covers convincing another human actor to do something that they otherwise would not do (Dahl, 1957). While the extant literature examines politics in institutionalization (Lawrence, 2008), the power exercised by materials is mostly neglected. With this theoretical framework, I contribute to institutionally based literature by revealing the role of materiality in exercising power. While doing this, I consider materiality, not simply as passive carriers of inscribed social structures and items of hegemony. Materials involved in practices, through which institutions are replicated or revised, behave more actively and institutional entrepreneurs need to alter their strategies according to agentic capacities of materials to change or maintain institutions. Therefore, I embrace the perspective presented by the literature on sociomateriality, which places equal importance on the agency of materials as its social counterpart in shaping practices.

My framework will support further research, aiming to respond to calls highlighting lack of attention to materiality and power in organization literature (Leonardi and Barley, 2010; Lawrence et al, 2013; Hardy and Thomas, 2015). Whether it is explicit or implicit, power is everywhere (Foucault, 1980a) and "nothing is more material, physical, corporeal than the exercise of power" (Foucault, 1980b, p. 57-58). Institutional theory, with its practice-based approach, provides a fertile ground to interrelate institutional, material and power literature streams and theorizes how power emerging from social and material realms reflect on the (de)stabilization of sociomaterial practices.

Moreover, I embrace a critical, realist perspective while examining sociomateriality. Accordingly, the social and the material are separate, and their continuous interaction constitutes sociomaterial practices. These interactions can stabilize and tend to become entangled over time (Leonardi and Barley, 2010; Leonardi, 2013). However, autonomous reflexive human agents have the capacity to employ their strategic goals despite this stable state and entanglement. Thus, they follow their own agenda with the opportunities arising from the material agency. In empirical studies, it is challenging to capture reflexivity of actors through “conscious reporting of their intentions” (Zilber, 2013, p. 87). However, the practice-based approach of the framework helps to identify prevailing sociomaterial practices and attempts to change these practices through exercising episodic power.

Longitudinal studies, including participant observation and interviews, are necessary to capture deviations from common sociomaterial practice, which are useful to mark potential points of reflective examinations and new sociomaterial practices. Understanding such experiences of institutional entrepreneurs, aiming to change or resist institutions, is vital to improving our understanding of reflexivity (Lawrence et al, 2013). For example, Cardinale (2018) theorized how social structures induced propensity of some actions more than others and highlighted the role of pre-reflexivity in orienting actions of human agents. Thus, according to that study, orienting an action is different from the enabling and constraining effects of structures. This theoretical stance about reflexivity and the human agency can be integrated with the framework to develop further ideas about how material agency takes part in orienting (influence and/or force) actions.

There are studies examining how social and material are entangled within sociomaterial practices, and this relationship can be disentangled by reflexive human actors (e.g., Leonardi, 2011; Kallinikos et al, 2013; de Vaujany et al, 2017). With my framework, the process of reflexive monitoring of sociomaterial practices and employing new actions according to self-interests could be examined with regard to power-based mechanisms. Therefore, the consequences of these attempts in terms of their success or failure to be spread out could be understood and explained. Following this inquiry, additionally, the role of the social and the material could be revealed.

Power relations within sociomaterial practices can be examined through notions from Parsons (1966), which are *information* and *energy*. Information and energy carried by

humans and materials can vary for their various engagements. In general, the social side of this engagement has high information and low energy, and this relationship is the opposite of the material side. According to Parsons (1966) and the others following Parsons (e.g., Alexander, 1983; Swidler; 2001); on the one hand, information-rich part of the engagements has the potential to direct the action, and on the other hand, the part with high energy determines it. For example, Swidler (2001) gives the example of a relationship between the worker and the pile of bricks while building a house. Thanks to the information provided by a worker, the bricks become a wall. On the other hand, the energy of bricks provides the necessary condition to put up the wall. Power processes that I elaborated in this framework could be studied and enriched with the notions of information and energy that take part in directing and determining actions.

Another promising research topic in the future could be how expert systems, artificial intelligence, and machine learning participate in organizing practices that encompass power relations, emerging as a result of interaction between advance level materials and humans. Different than commonplace materials that we engaged during our daily practices, these high-tech materials have the ability to explore, learn and act according to patterns and limits of human action (Dreyfus and Dreyfus, 2005). These technologies become parts of work environments, which are occupied by professionals with significant expertise power such as manufacturing, healthcare, and law. Changing highly institutionalized practices in such fields through agentic capacities of materials can be examined with the framework developed in this chapter.

6. CONCLUSION

Technological developments introduced several new materials to our everyday lives over the last decades; product lifecycles became shorter, and practices turned out to be more dependent upon materiality that triggers fundamental and rapid changes in societies and organizations. Materiality influences our ways of communication, acts on our interpretation of the world, and shapes our work practices (Orlikowski, 2007; Orlikowski and Scott, 2008). This contemporary situation renders the focal point of this dissertation more interesting and valuable.

Despite its ubiquitous being in practices, materiality has attracted relatively less attention in social and organizational studies for a long time. It is mostly overlooked (Latour, 1992; Pickering, 2001; Barad, 2003; Carlile et al, 2013; Dant, 2006; Greiffenhagen, 2014) or considered as an area of research for other disciplines (Bijker and Pinch, 2012). More recently, materiality has been attracting more attention among sociology circles, and organizational scholars and new perspectives appeared, taking the issue more seriously (Latour, 2005; Pickering, 1995; Leonardi 2011; Orlikowski and Scott, 2008). Following this line of inquiry, in this dissertation, I consider materials such as space, place, technologies, and artifacts, as an active constituent of the social, acknowledge the continuous relation between the social and the material, and consider the agentic capacities of materials.

Moreover, I bring the physicality of materiality to the fore and reveal coercive modes of power that arise from this physicality. Accordingly, this dissertation aspires to understand and explain how materiality, power, and actorhood constitute practices, rendering institutional change and stability possible. I explored the answer of this broad question throughout this dissertation that presents a structured literature review, and empirical and theoretical research. Consequently, this dissertation contributes to the intersection of three literature streams; such as institutional theory, power, and materiality, which is an underexamined research field.

6.1 Final Comments

In the second chapter of this dissertation, I performed a systemic literature review about sociomateriality in the top tier journals of social sciences, organization and management studies and information management studies. I compare and contrast different approaches such as ANT, MoP, and ToI that the sociomateriality perspective covers as an umbrella term. Moreover, I show the pros and cons of two distinct ontological stances on sociomateriality, which is the main subject of discussion in the extant literature. All the approaches covered by sociomateriality and its different ontological considerations enrich this perspective by providing a strong vocabulary and different theoretical lenses that help to examine the materiality from various viewpoints. Furthermore, with the literature review conducted in this chapter, I identified some research areas that need further investigation. Accordingly, I argue that sociomateriality presents a promising perspective for studying materiality and its relation with institutions. Materiality appears as one of the drivers of change for institutions, and it mobilizes different power-based mechanisms.

The third chapter examines the relation of power and actorhood in organizations in the way of maintenance and change of institutions. More particularly, I focused on the resistance of two resistive movements that emerge in similar organizations, in Turkish higher education field, against an institutional change. In this empirical fieldwork, I consider materiality as a phenomenon that affects the discursive framing repertoire of social movements through which power is exercised. So, this research considers the one-way relation that arises from materiality shaping discourse that mobilizes resistance against institutions. I conclude that discursive framing tactics and therefore, spatial contestation indirectly, have implications on progress and lifespan of social movements.

The empirical fieldwork conducted in Turkish healthcare field represented in the fourth chapter of this dissertation. This research explores specific mechanisms by which materiality attends to institutional change and stability in organizational practices. The relations of the social and the material are examined through the sociomateriality perspective. As mentioned in the second chapter, the separatist view of sociomateriality is more appropriate to conduct such empirical research in parallel settings, draw causal links, and examine power relations that are distributed among

different actors. Accordingly, I embrace the dualist stance that helps me to locate different power-based mechanisms arising from social structures (including institutions), material structures, and sociomaterial practices.

In the fifth chapter, I develop a theoretical framework that covers the relations of the social and the material in practices, as well as the effects of these practices on changing or maintaining social and material structures. The drivers of change and maintenance are drawn as different power-based mechanisms that emanate from longitudinal relations. Moreover, this framework theorizes how human actors become change agents eluding from conditioning power-based mechanisms that are exercised by social and material structures and provide stability to practices. This framework is inspired by Barley and Tolbert (1997) and Lawrence (2008) and enriched by sociomateriality perspective. The dualist view of sociomateriality is adopted in this chapter as locating different sources of power requires considering social and material analytically separate.

6.1.1 Empirical fieldwork

The empirical work is conducted in higher education and healthcare fields. Both universities and hospitals are highly institutionalized settings with regulations, rules, norms and professional identities. My empirical fieldwork in this dissertation, explore power-based mechanisms arising from these institutions and also materials constituting these institutions.

The third chapter acknowledges social and material practices separately and draws an indirect relationship arising from material practices (spatial practices), relating to social practices (framing tactics) that are changing and maintaining institutions through power-based mechanisms.

Nevertheless, the fourth chapter acknowledges the role of materiality in power-based mechanisms in two ways. First – similar to the third chapter – there is an indirect relationship between material structures and social structures (institutions) that are drawn over sociomaterial practices. Material structures condition sociomaterial practices that shape social structures in the long run.

Sociomaterial perspective adopted in the fourth chapter helps to capture situated and improvised actions arising from sociomaterial entanglements as a result of which episodic power-based mechanisms emerge, changing or maintaining social structures.

So, this source of relations between humans and materials arises directly towards social structures, which is different from the indirect effects of materiality.

6.1.2 Methodological implications

My methodological approaches in the third and fourth chapters are different. Providing the possibility to consider situated and improvised interactions between the social and the material is one of the most prominent advantages of sociomateriality perspective, as mentioned in chapter two. In order to capture these moments, researchers need to find a way to capture these actual interactions through observing or somehow recording them. Accordingly, in the fourth chapter, I conducted a critical ethnography and used my observations as my primary data. On the contrary, as social and material practices are considered separately in the third chapter, social practices are collected through online ethnography and framings of social movements are analyzed with secondary data. By nature, this methodological approach neglects situatedness and improvisations in the interactions between the social and the material.

Moreover, I conducted my ethnographic fieldwork in two parallel settings for both chapter three and chapter four. This research strategy helps me to identify similarities and differences in different contexts and supports me to assert more strong arguments. For example, by comparing the framing tactics of assistants' solidarity movements in ITU and METU, I can reach conclusions that explain some reasons for different lifespans for these movements. Moreover, as proposed by my findings in the second chapter, in order to identify neutralized sources of power arising from material structures, it is required to carry out research in parallel settings. Accordingly, in chapter four, by comparing material structures of two different emergency departments and their contributions to sociomaterial practices, I am able to scrutinize different power-based mechanisms related to materiality.

6.1.3 Power-based mechanisms

The model developed at the end of the inductive study in chapter four overlaps, to some degree, with the power-based mechanisms, which are examined in chapter three. For example, influencing and forcing frames in chapter three resonate with *negotiating* and *force*, respectively in chapter four. Both influencing frames and negotiation acknowledge the agency of the target and try to convince him/her to act according to the goals to be reached. In contrary, forcing frames and force ignore this agency and

act by considering the target as an object. The difference between forcing frames and force in between these two studies is that the former one comprises only discursive sources of force, while the latter covers both discursive and physical exercise of this power-based mechanism.

There is also a similar conditioning source of power in both of the studies. Disciplining frames in the third chapter are closely related to *normalizing* in the fourth one. Both of them refer to legitimacy, relying on unwritten rules that are widely accepted among groups of people in society. More specifically, as professions are strong at both higher education and healthcare fields, the relation of disciplinary power with professional norms is common in both of the studies.

6.1.4 Actorhood and materiality

In chapters three and four, the resistance of micro human actors (Mouzelis, 1995, 2008), such as assistants at the universities and staff and patients in the hospitals emerge against institutional change. All of these actors exploited materiality on the way of challenging with new institutional arrangements such as rules and regulations. The difference between the actors is that the third chapter focuses on the exercise of the power of collectives that emerge as institutional entrepreneurs (DiMaggio, 1988) acting with a certain agenda. In this empirical fieldwork, power is exercised through different framing tactics of these change agents. The fourth chapter, however, examines daily practices and power-based mechanisms of unorganized actors who exercise power both discursively and physically.

In my empirical fieldwork, materiality and material actors participate in the power-based mechanisms. In the third chapter, materiality (spatiality) reflects on the framing tactics as lived experiences of assistants' solidarity movements. Therefore, materiality contributes to power-based mechanisms with its symbolic value that appear as experiences of human actors that interact with materials (space) in practices. In the fourth chapter, physical manifestations of power are also acknowledged. Accordingly, I explored different power-based mechanisms that physically condition sociomaterial practices and change material structures.

6.1.5 Integrating materiality, power, and actorhood

The theoretical framework developed in the fifth chapter of this dissertation is inspired by Barley and Tolbert (1997) and Lawrence (2008). This framework is developed to support researchers, studying institutional change and maintenance through power-based mechanisms with social and material underpinnings.

Following the arguments in chapter two, this framework is built on a dualist view of sociomateriality that argues analytical separateness of the social and the material. By this way, the framework aims to cover all sources of power conditioning practices and shaping social and material structures. Moreover, this view provides a perspective that acknowledges the distribution of power among different actors and provides room for resistance. The asymmetry argued in this view of sociomateriality, helps to explain the process of how a human actor, who is conditioned by structural power-based mechanisms, can act differently according to self-interests. This framework makes use of institutional entrepreneurship and autonomous reflexivity concepts (Mutch, 2007) to explain this process. Moreover, this asymmetry allows examining inherent properties of humans and materials which renders conducting comparative studies in multiple settings possible.

The third chapter uses the framework of Lawrence (2008) and synthesizes it with action frames to explore framing tactics of actors. The framework of Lawrence (2008) relies on systemic and episodic sources of power and provide an outline to study power in institutional studies. My theoretical framework, developed in chapter five, is also inspired by Lawrence (2008), in order to provide a comprehensive approach to the relations of institutions and materials. Therefore, my approach to power acknowledge structural sources of power that consider the target as an object or subject, and both of them also take action-based sources of power that rely on agentic capacities of actors into consideration.

My empirical fieldwork in the universities considers the symbolic and perceptual contribution of the materiality in the constitution of institutions however the inductive empirical fieldwork in the Turkish healthcare field also reveals physicality of materials, other than its symbolic and perceptual meanings. This fieldwork shows active participation of materials in the constitution of institutions with this physicality.

The developed theoretical framework also counts on the physicality of materials apart from any human intervention.

This dissertation draws links of power-based mechanisms between social structures (institutions), material structures, and sociomaterial practices. My approach to understanding the researched phenomena requires a longitudinal analysis that captures reciprocal relations between materiality and actorhood, and power that emerges as a property of these mutual relations. My findings show that both everyday sociomaterial practices and purposeful actions of organized actors can take part in changing/maintaining institutions.

6.2 Contributions to the Literature

This dissertation helps to understand and explain the role of materiality in the constitution of the social by drawing links between two realms over power-based mechanisms. With the recent technological developments and ubiquitousness of materiality in organizational practices, this phenomenon attracts more attention among organizational scholars. This dissertation also elaborates on different perspectives on sociomateriality and provide guidance to these scholars while using these perspectives.

Another contribution of this dissertation is its emphasis on power-based mechanisms that take part in the creation, maintenance and disruption of institutions. Role of power in the institutional analysis is an underexamined and undertheorized phenomenon and this dissertation responses to this research gap both empirically and theoretically.

The empirical data of this dissertation was collected from Turkish higher education and healthcare fields. Both of these fields have been undergoing an institutional transformation for a number of years in Turkey and abroad and, therefore, examining this transformation is valuable for the development and wellbeing of the society. Moreover, understanding power-based mechanisms arising from the social and material realms, that condition and change practices, is essential to understand the dynamics of our local context.

Furthermore, the theoretical framework developed in this dissertation helps scholars to clearly locate material agency, human agency, social structure, and material structure in empirical settings. In order to do this, methodological guidance is provided to scholars who are eager to use this framework in their empirical studies. This

framework can foster research that cross-fertilizes literature streams examining institutions, materiality, and power in social sciences.

This dissertation also contributes to the literature in terms of methodological approaches embraced in the empirical fieldwork. I used both online and offline data to examine discursive tactics and spatial contestation. By this way, an example of using online ethnography is presented with this dissertation which is not prominent in the extant literature. Moreover, conducting research in parallel settings gives me the opportunity to explore neutralized sources of power relying on materiality. Therefore, this dissertation illustrates the usefulness of multiple case method that helps to better understand materiality within empirical studies.

6.3 Limitations

This dissertation has some limitations. First of all, the findings of inductive case studies are not generalizable. My results probably have contextual dependencies and could be different in other fields. However, in order to deal with this problem, I conducted research in parallel settings and this research strategy supports me to present more strong arguments.

As second, performing empirical research with the theoretical framework developed in this dissertation requires too many resources as it requires a longitudinal ethnography. Furthermore, collecting data from multiple settings is needed to better exploit the framework. Novel data collection techniques such as video recording and online ethnography could be used to reduce required resources.

The third limitation of this dissertation is its focus on only the regulative pillar of institutions in order to examine institutional change. As mentioned in the literature, there are two more pillars of institutions such as cognitive and normative (Scott, 2001). These two pillars of institutions can help to enrich our understanding of relations between materiality, power, and actorhood.

6.4 Future Research

This dissertation can open up new directions of research in social sciences. First of all, the interactions between humans and materials within sociomaterial practices appear as an area of research that needs further investigation. What are the mechanisms that

are employed in case of a human – material engagement and induce the emergence of power? For example, Parsons (1966) argued that information and energy are transferred between two parties in case of a relation. Degree of this information and energy is essential in directing and determining the action that appears as a result of this engagement. This theoretical approach could also be used to draw links between different types of power-based mechanisms and human – material interactions.

Another interesting field of research that can be responded by using the theoretical framework in this dissertation is about the role of advanced level technologies shaping social order. More recently, we exposed to technologies that are dependent on artificial intelligence. These technologies have an essential role in shaping organizational and institutional practices through learning and acting according to human actions (Dreyfus and Dreyfus, 2005).

Furthermore, with the framework developed in this dissertation, scholars can capture situated and improvised interactions within sociomaterial practices which may have expected or unexpected outcomes. Such future research could enrich our understanding of decoupling relying on materiality (Kern et al, 2017). In addition to this, situated and improvised actions can form proto-institutions (Lawrence et al, 2002; Zietsma and McKnight, 2009), and fads and fashions (Wang, 2010; Heusinkveld et al, 2013; Nielsen et al, 2014). Therefore, further research on situational interaction of humans and materials can help us to better understand the early stages of institutions.

6.5 Concluding Remarks

Materiality is an indispensable constituent of practices and relations between humans and materials become more complex with recent technological developments. This dissertation offers a way to understand and explain this multifaceted phenomenon by drawing links between institutions, practices, and materials. My empirical contexts, as higher education and healthcare, are also crucial for society. I believe it also adds value to the dissertation as it becomes essential to comprehend the role of materiality in these settings, especially when they are under transformation. Although this study inevitably has some limitations, it has theoretical and practical contributions and opens up new avenues for research.



REFERENCES

- Akdağ, R.** (2009). *Health Transformation Program in Turkey, Progress Report January 2009*. Ankara: Ministry of Health.
- Aksoy, B.** (2007). *The Role of a Professional Association in Institutional Change: The case of Turkish Health Field*. (Dissertation). Başkent University, Institute of Social Sciences, Ankara.
- Albarracin, D.** (2002). Cognition in Persuasion: An analysis of information processing in response to persuasive communications. *Advances in Experimental Social Psychology*, 34, 61–130.
- Alexander, J.** (1983). *The Modern Reconstruction of Classical Thought: Talcott Parsons*. Berkeley: University of California Press.
- Anonymous.** (2013a). Retrieved October 25, 2014, ODTÜ Yönetimine Taleplerimizi ilettik [We sent our requests to METU administration]. March 29, 2013. from <http://odtuasistandayanismasi.blogspot.com.tr/2013/03/taleplerimiz.html?view=sidebar#!/2013/03/taleplerimiz.html>.
- Anonymous.** (2013b). Retrieved October 25, 2014, ODTÜ Yönetimine Çağrımızdır! [Our call to METU administration!]. March 30, 2013. from <http://odtuasistandayanismasi.blogspot.com.tr/2013/03/odtu-yonetimine-cagrmzdr.html?view=sidebar#!/2013/03/odtu-yonetimine-agrmzdr.html>.
- Archer, M. S.** (1989). *Culture and agency: The place of culture in social theory*. Cambridge: Cambridge University Press.
- Archer, M. S.** (1995). *Realist social theory: The morphogenetic approach*. Cambridge: Cambridge University Press.
- Archer, M. S.** (2003). *Structure, agency, and the internal conversation*. Cambridge: Cambridge University Press.
- Aroles, J., and McLean, C.** (2016). Rethinking stability and change in the study of organizational routines: Difference and repetition in a newspaper–printing factory. *Organization science*, 27(3), 535–550.
- Asistan Dayanışması.** (2012a). Retrieved October 25, 2014, Üniversitemizi Terketmiyoruz Çağrısı [We don't leave our university call]. October 10, 2012. from <http://ituasistandayanismasi.blogspot.com.tr/2012/10/universitemizi-terketmiyoruz-cagrs.html#!/2012/10/universitemizi-terketmiyoruz-cagrs.html>.

- Asistan Dayanışması.** (2012b). Retrieved October 25, 2014, Sanatçılar İTÜ'lü Asistanlara Sahip Çıkıyor [Artists take side with ITU assistants]. October 15, 2012. from <http://ituasistandayanismasi.blogspot.com.tr/2012/10/sanatclar-itulu-asistanlara-sahip-ckyor.html#!/2012/10/sanatclar-itulu-asistanlara-sahip-ckyor.html>.
- Asistan Dayanışması.** (2012c). Retrieved October 25, 2014, İmza Kampanyası [Petition]. October 7, 2012. from <http://ituasistandayanismasi.blogspot.com.tr/2012/10/imza-kampanyasi.html#!/2012/10/imza-kampanyasi.html>.
- Asistan Dayanışması.** (2012d). Retrieved October 25, 2014, İTÜ'deki 50D tiyatrosunda son perde: '81 Araştırma Görevlisi için yapılabilecek hiçbir şey yok' [The last scene in 50D theater at ITU: Nothing can be done for 81 research assistants]. October 21, 2012. from <http://ituasistandayanismasi.blogspot.com.tr/2012/10/itudeki-50d-tiyatrosunda-son-perde-81.html#!/2012/10/itudeki-50d-tiyatrosunda-son-perde-81.html>.
- Asistan Dayanışması.** (2013). Retrieved October 25, 2014, Başka bir İTÜ Mümkün! [An alternative ITU is possible]. December 1, 2013. from <http://ituasistandayanismasi.blogspot.com.tr/2014/01/baska-bir-itu-mumkun.html#!/2014/01/baska-bir-itu-mumkun.html>.
- Asistan Dayanışması.** (2014a). Retrieved October 25, 2014, Suc, duyurusunda bulunduk [We made a criminal complaint]. September 30, 2014. from <http://ituasistandayanismasi.blogspot.com.tr/2013/06/polis-siddetine-kars-imza-kampanyas.html#!/2014/09/suc-duyurusunda-bulunduk.html>.
- Asistan Dayanışması.** (2014b). Retrieved October 25, 2014, Soma için Maden Fakültesi'ni İşgal Eden İTÜ Öğrencilerinin yanındayız! [We support ITU students occupying mining faculty for the Soma accident]. May 19, 2014. from <http://ituasistandayanismasi.blogspot.com.tr/2014/08/itu-ogrencilerinin-yanndayz.html#!/2014/08/itu-ogrencilerinin-yanndayz.html>.
- Atkinson, P., Coffey, A., Delamont, S., Lofland, J., and Lofland, L.** (2001). *Handbook of Ethnography*. London: SAGE Publication.
- Austin, J. L.** (1962). *How to Do Things with Words*. Oxford, England: Oxford University Press.
- Bacharach, P., and Baratz, M. S.** (1962). Two faces of power. *American Political Science Review*, 56, 947–952.
- Balogun, J., Jacobs, C., Jarzabkowski, P., Mantere, S., and Vaara, E.** (2014). Placing Strategy Discourse in Context: Sociomateriality, Sensemaking, and Power. *Journal of Management Studies*, 51(2), 175–201.
- Barad, K.** (2003). Posthumanist performativity: Toward an understanding of how matter comes to matter. *Signs*, 28(3), 801–831.

- Barad, K.** (2007). *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Durham, North Carolina: Duke University Press.
- Barley, S. R.** (1984). *The professional, the semi-professional and the machine: The social implications of computer based imaging in radiology*. (Unpublished doctoral dissertation), Massachusetts Institute of Technology, Cambridge.
- Barley, S. R.** (1986). Technology as an occasion for structuring: evidence from observations of CT scanners and the social order of radiology departments. *Administrative Science Quarterly*, 31, 78–108.
- Barley, S. R.** (1990). The Alignment of Technology and Structure through Roles and Networks. *Administrative Science Quarterly*, 35(1), 61–103.
- Barley, S. R., and Tolbert, P. S.** (1997). Institutionalization and structuration: studying the links between action and institution. *Organization Studies*, 1(18), 93–117.
- Barnes, B.** (2001). Practice as collective action. In T. R. Schatzki, K. K., Cetina and E. V. Savigny (Eds), *The Practice Turn in Contemporary Theory* (pp. 37–49). London: Routledge.
- Barrett, M., Oborn, E., and Orlikowski, W.** (2016). Creating Value in Online Communities: The Sociomaterial Configuring of Strategy, Platform, and Stakeholder Engagement. *Information Systems Research*, 27(4), 1–20.
- Battilana, J., Leca, B., and Boxenbaum E.** (2009). How Actors Change Institutions: Towards a Theory of Institutional Entrepreneurship. *The Academy of Management Annals*, 3(1), 65–107.
- Beaulieu, A.** (2010). From co-location to co-presence: Shifts in the use of ethnography for the study of knowledge. *Social Studies of Science*, 40(3), 453–470.
- Belz, F. M., and Baumbach, W.** (2010). Netnography as a method of lead user identification. *Creativity and Innovation Management*, 19(3), 304–313.
- Benford, R.** (1997). An insider's critique of the social movement framing perspective. *Sociological Inquiry*, 67, 409–430.
- Benford, R. D., and Snow, D. A.** (2000). Framing processes and social movements: An overview and assessment. *Annual Review of Sociology*, 26, 611–639.
- Berger, B., and Luckmann, T.** (1966). *The Social Construction of Reality: A Treatise on the Sociology of Knowledge*. Garden City, NY: Anchor.
- Beyes, T., and Steyaert, C.** (2012). Spacing organization: Non-representational theory and performing organizational space. *Organization*, 19 (1), 45–61.
- Bhaskar, R.** (1978). *A Realist Theory of Science*. Hemel Hempstead, UK: Harvester.
- Biddix, J. P., and Park, H. W.** (2008). Online networks of student protest: The case of the living wage campaign. *New Media & Society*, 10(6), 871–891.

- Bijker, W. E., and Pinch, T.** (2012). Preface to the Anniversary Edition. In W. E. Bijker, T. P. Hughes, and T. Pinch (Eds.), *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (pp. xi–xxxiv). London: The MIT Press.
- Bisel, R. S., Kramer, M. W., and Banas, J. A.** (2016). Scaling up to institutional entrepreneurship: A life history of an elite training gymnastics organization. *Human Relations*, 70(4), 410–435.
- Black, R. M.** (1983). *The History of Electric Wires and Cables*. Exeter: Short Run Press.
- Blagoev, B., Felten, S., and Kahn, R.** (2018). The Career of a Catalogue: Organizational Memory, Materiality and the Dual Nature of the Past at the British Museum (1970–Today). *Organization Studies*, 39(12), 1–27.
- Bloomfield, B., and Coombs, R.** (1992). Information technology, control and power: The centralisation and decentralisation debate revisited. *Journal of Management Studies*, 29(4), 459–484.
- Blum–Kulka, S., and Liebes, T.** (1993). Frame ambiguities: Narrativization of the intifada experience by Israeli soldiers. In A. Cohen, and G. Wolfsfeld (Eds.), *Framing the Intifada: People and Media* (pp. 27–52). New York, NY: Ablex.
- Boellstorff, T.** (2008). *Coming of Age in Second Life: An Anthropologist Explores the Virtually Human*. New Jersey: Princeton University Press.
- Boxenbaum, E., and Pedersen, J. S.** (2009) Scandinavian institutionalism – a case of institutional work. In T. Lawrence, R. Suddaby, and B. Leca (Eds.), *Institutional Work: Actors and Agency in Institutional Studies of Organizations*. (pp. 1–28). Cambridge, U.K.: Cambridge University Press.
- Bruni, A.** (2005). Shadowing software and clinical records: On the ethnography of non–humans and heterogeneous contexts. *Organization*, 12(3), 357–378.
- Buechler, S. M.** (1995). New social movement theories. *The Sociological Quarterly*, 36(3), 441–464.
- Bump, J., Sparkes, S., Tatar, M., and Çelik, Y.** (2014). Turkey one the Way of Universal Health Coverage Through the Heath Transformation Program (2003–13), In M. Aran, and C. Rokx (Eds.), *Washington: The World Bank*.
- Bunting, B., and Floyd, M. H.** (1985). *Harvard: an architectural history*. Cambridge, MA: Belknap Press of Harvard University Press.
- Burrell, J.** (2009). The field site as a network: A strategy for locating ethnographic research. *Field Methods*, 21(2), 181–199.
- Butler, J.** (1990). *Gender Trouble*. London: Routledge.
- Butler, J.** (1993a). *Bodies that Matter*. London: Routledge.
- Butler, J.** (1993b). Critically queer. *Gay and Lesbian Quarterly*, 1(1), 17–32.

- Cabantous, L., and Gond J.** (2015). The Resistible Rise of Bayesian Thinking in Management: Historical Lessons from Decision Analysis. *Journal of Management*, 41(2), 441–470.
- Callon, M.** (1986). Some Elements for A Sociology of Translation: Domestication of the Scallops and the Fishermen of St-Brieuc Bay. In J. Law (Eds.), *Power, Action and Belief: A New Sociology of Knowledge?* (pp. 196–223). London: Sociological Review Monograph, Routledge and Kegan Paul.
- Callon, M.** (1987). Society in the Making: The Study of Technology as a Tool for Sociological Analysis. In W. Bijker, T. Hughes, and T. Pinch (Eds.), *The Social Construction of Technological Systems* (pp. 77-97). Cambridge: MIT Press.
- Callon, M.** (1991). Techno–Economic Networks and Irreversibility. In J. Law (Eds.), *A Sociology of Monsters. Essays on Power, Technology and Domination* (pp. 132–161) London: Routledge.
- Callon, M.** (1999). Actor–Network Theory: The Market Test. In J. Law, and J. Hassard (Eds.), *Actor–Network Theory and After* (pp. 181–195). Oxford, UK: Blackwell and the Sociological Review.
- Callon, M.** (2013). Qu’est-ce qu’un agencement marchand ? In M. Callon (Eds.), *Sociologie des Agencements Marchands. Textes Choisis.* (pp. 325–440). Paris: Presses des Mines.
- Callon, M., and Latour B.** (1992). Don’t throw the baby out with the Bath School! A reply to Collins and Yearley. In A. Pickering (Eds.), *Science as Practice and Culture* (pp. 343–368). Chicago: University of Chicago Press.
- Cardinale, I.** (2018). Beyond Constraining and Enabling: Toward New Microfoundations for Institutional Theory. *Academy of Management Review*, 43(1), 132–155.
- Carlile, P. R., Nicolini, D., Langley, A., and Tsoukas, H.** (2013). How Matter Matters: Objects, Artifacts, and Materiality in Organization Studies: Introducing the Third Volume of “Perspectives on Organization Studies”. In P.R Carlile, D. Nicolini, A. Langley, and H. Tsoukas, (Eds), *How Matter Matters: Objects, Artifacts, and Materiality in Organization Studies* (pp. 1–16). Oxford: Oxford University Press.
- Carragee, K. M., and Roefs, W.** (2004). The neglect of power in recent framing research. *Journal of Communication*, 54, 214–233.
- Carspecken, P. F.** (1996). *Critical Ethnography in Educational Research: A Theoretical and Practical Guide.* London: Routledge.
- Casey, E. S.** (1993). *Getting back into place: Toward a renewed understanding of the place–world.* Bloomington, Indianapolis: Indiana University Press.
- Castells, M.** (2012). *Networks of outrage and hope: Social movements in the internet age.* Cambridge: Polity.
- Cecez–Kecmanovic, D., Galliers, R. D., Henfridsson, O., Newell, S., and Vidgen, R.** (2014). The sociomateriality of information systems: Current status, future directions. *MIS Quarterly*, 38(3), 809–830.

- Clegg, S. R.** (1975). *Power, rule and domination*. London: Routledge.
- Clegg, S. R.** (1989). *Frameworks of power*. London: Sage.
- Clegg, S. R., and Kornberger, M.** (2006). *Space, Organizations and Management Theory*. Copenhagen: Copenhagen Business School Press.
- Clegg, S. R., Courpasson, D. and Phillips, N.** (2006). *Power and Organizations*. In A. S. Huff, B. Schneider, and M. S. Taylor (Eds.), London: Sage Publications.
- Clegg, S. R., Courpasson, D., and Phillips, N.** (2006). *Power and organizations*. London: Sage.
- Clemens, E. S., and Cooks, J. M.** (1999). Politics and institutionalism: Explaining durability and change. *Annual Review of Sociology*, 25(1), 441–466.
- Connellan, K.** (2013). The Psychic Life of White: Power and Space. *Organization Studies*, 34(10), 1529–1549.
- Corbin, J., and Strauss, A.** (2008). *Basics of qualitative research* (3rd ed.). Thousand Oaks, CA: Sage.
- Courpasson, D., Dany, F., and Delbridge, R.** (2016). Politics of place: The meaningfulness of resisting places. *Human Relations*, 70(2), 237–259.
- Cova, B., and Pace, S.** (2006). Brand community of convenience products: new forms of customer empowerment – the case “my Nutella the community”. *European Journal of Marketing*, 40(9/10), 1087–1105.
- Cresswell, T.** (2000). Falling down. Entanglements of power: *Geographies of domination/resistance*, 256–68.
- Curtis A. M., Dennis, A. R., and McNamara, K. O.** (2017). From monologue to dialogue: Performative objects to promote collective mindfulness in computer-mediated team discussions. *MIS Quarterly*, 41(2), 559–581.
- Czarniawska, B.** (2008). How to Misuse Institutions and Get Away with It: Some Reflections On Institutional Theory(ies). In R. Greenwood, C. Oliver, R. Suddaby, and K. Sahlin (Eds.), *The Sage Handbook of Organizational Institutionalism* (pp.769–782). London: SAGE Publications.
- Dacin, T. M., Goodstein, J., and Scott, W. R.** (2002). Institutional theory and institutional change: Introduction to the special research forum. *Academy of Management Journal*, 45(1), 45–56.
- Dahl, R.** (1957). The concept of power. *Behavioural Science*, 2, 201–215.
- Dale, K., and Burrell, G.** (2007). *The Spaces of Organisation and the Organisation of Space: Power, identity and materiality at work*. Basingstoke: Palgrave Macmillan.
- Davidson, E. J., and Chismar W. G.** (2007). The interaction of institutionally triggered and technology-triggered social structure change: An investigation of computerized physician order entry. *MIS Quarterly*, 31(4), 739 – 758.

- Davis, G. F., McAdam, D., Richard, W., Mayer, S., and Zald, N.** (2005). *Social movements and organization theory*. Cambridge: Cambridge University Press.
- de Certeau, M.** (1984). *The Practice of Everyday Life*. (Translated by S. F. Rendall). Berkeley: University of California Press.
- de Vaujany, F. X., and Vaast E.** (2014). If These Walls Could Talk: The Mutual Construction of Organizational Space and Legitimacy. *Organization Science*, 25(3), 713–731.
- de Vaujany, F. X., Fomin, V. V., Haefliger, S., and Lyytinen, K.** (2018). Rules, Practices, and Information Technology: A Trifecta of Organizational Regulation. *Information Systems Research*, 29(3), 1–19.
- Deleuze, G., and Guattari, F.** (1988). *A Thousand Plateaus: Capitalism and Schizophrenia*. London: Bloomsbury Publishing.
- Della Porta, D.** (2015). *Social Movements in Times of Austerity: Bringing Capitalism Back into Protest Analysis*. Cambridge: Polity Press.
- Della Porta, D., and Diani, M.** (2006). *Social movements: An introduction*. Oxford: Blackwell.
- Denzin, N. and Lincoln, Y. S.** (2005). Introduction: the discipline and practice of qualitative research, In N. Denzin, and Y. S. Lincoln (Eds.), *The Sage Handbook of Qualitative Research* (3rd Ed.) (pp. 1–32). Thousand Oaks, CA: Sage.
- DeWalt, K. M., and DeWalt, B. R.** (2011). *Participant observation: A guide for fieldworkers* (2nd ed.). New York: Altamira Press.
- Diani, M.** (1992). The concept of social movement. *The Sociological Review*, 40, 1–25.
- DiMaggio, P. J.** (1988). Interest and agency in institutional theory. In L. Zucker (Eds.), *Institutional Patterns and Organizations* (pp. 3–22). Cambridge, MA: Ballinger.
- DiMaggio, P. J.** (1997). Culture and Cognition. *Annual Review of Sociology*, 23, 263–287.
- DiMaggio, P. J., and Powell, W. W.** (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48, 1750–1762
- Dirksen, V., Huizing, A., and Smit, B.** (2010). ‘Piling on layers of understanding’: The use of connective ethnography for the study of (online) work practices. *New Media & Society*, 12(7), 1045–1063.
- Dovey, K.** (1999). *Framing Places: Mediating Power in Built Form*. London, UK: Routledge.
- Dreyfus, H. L., and Dreyfus, S. E.** (2005). Peripheral Vision: Expertise in Real World Contexts. *Organization Studies*, 26(5), 779–792.
- Dwivedi, M.** (2009). Online destination image of India: A consumer based perspective. *International Journal of Contemporary Hospitality Management*, 21(2), 226–232.

- Dyer, W. G. Jr., and Wilkins, A. L.** (1991). Better stories, not better constructs to generate better theory: A rejoinder to Eisenhardt. *Academy of Management Review*, 16(3), 613–619.
- Eaton, B., Elaluf–Calderwood, S., Sørensen, C., and Yoo, Y.** (2015). Distributed tuning of boundary resources: the case of Apple's iOS service system. *MIS Quarterly*, 39(1), 217–244.
- Eisenhardt, K. M., and Graebner, M. E.** (2007). Theory building from cases: Opportunities and challenges. *Academy of Management Journal*, 50, 25–32.
- Emirbayer, M., and Mische, A.** (1998). What is agency?. *American Journal of Sociology*, 103(4), 962–1023.
- Erden Bayazit, Z.** (2005). *Histories, institutional regimes and educational organizations: The case of Turkish higher education*. (Unpublished doctoral dissertation). Sabancı University, Istanbul.
- Executive Summary: Ready for the New Economy.** (2015). Retrieved April 21, 2019, from <https://www.thirdway.org/memo/executive-summary-ready-for-the-new-economy>.
- Fay, B.** (1996). *Contemporary Philosophy of Social Science: A Multicultural Approach*. Oxford: Blackwell.
- Feldman, M. S., and Orlikowski, W. J.** (2011). Theorizing Practice and Practicing Theory. *Organization Science*, 22(5), 1240–1253
- Feldman, M. S., and Pentland, B. T.** (2003). Reconceptualizing organizational routines as a source of flexibility and change. *Administrative Science Quarterly*, 48, 94–118.
- Fielding, M.** (2010). The radical potential of student voice: Creating spaces for restless encounters. *The International Journal of Emotional Education*, 2(1), 61–73.
- Fisher, D., and Smith, S.** (2011). Cocreation is chaotic: What it means for marketing when no one has control. *Marketing Theory*, 11(3), pp. 325–350.
- Fleming, P., and Spicer, A.** (2004). ‘You can checkout anytime, but you can never leave’: Spatial boundaries in a high commitment organization. *Human Relations*, 57(1), 75–94.
- Fleming, P., and Spicer, A.** (2014). Power in Management and Organization Science. *The Academy of Management Annals*, 8(1), 237–298.
- Flick, U.** (2008). *Designing qualitative research*. London, England: Sage.
- Fligstein, N., and McAdam, D.** (2011). Toward a general theory of strategic action fields. *Sociological Theory*, 29, 1–26.
- Fligstein, N., and McAdam, D.** (2012). *A Theory of Fields*. Oxford: Oxford University Press.
- Fontana, A., and Frey, J. H.** (2005). The Interview: From Neutral Stance to Political Involvement. In N. K. Denzin, and Y. S. Lincoln (Eds.), *The Sage Handbook of Qualitative Research* (3rd Ed.) (pp. 695–728). Thousand Oaks, CA: Sage.

- Foucault, M.** (1977). *Discipline and punish: The birth of the prison* (Translated by A. Sheridan). London: Allen Lane, Penguin.
- Foucault, M.** (1980a). *The History of Sexuality: An Introduction*. New York: Vintage Books.
- Foucault, M.** (1980b). *Power/Knowledge: Selected Interviews and Other Writings 1972–1977*. In C. Gordon (Eds.). Brighton: Harvester Press.
- Foucault, M.** (1982). The Subject and Power. In H. L. Dreyfus, and P. Rabinow (Eds.), *Michel Foucault Beyond Structuralism and Hermeneutics* (pp. 208–226). New York: Harvester Wheatsheaf.
- Foucault, M.** (1998). *Aesthetics, Method, and Epistemology* (Vol. 2). New York: The New Press.
- Foucault, M.** (2007). *Security, territory, population: Lectures at the Collège de France, 1977–78*. London: Palgrave Macmillan.
- Fregonese, S.** (2012). Beyond the ‘weak state’: Hybrid sovereignties in Beirut. *Environment and Planning D: Society and Space*, 30(4), 655–674.
- Friedland, R., and Alford, R. R.** (1991). Bringing society back in: Symbols, practices and institutional contradictions. In W. W. Powell, P. J. DiMaggio (Eds.), *The New Institutionalism in Organizational Analysis* (pp. 232–263). Chicago: University of Chicago Press.
- Gamson, W.** (1992). *Talking Politics*. New York, NY: Cambridge University Press.
- Gamson, W., Fireman, B., and Rytina, S.** (1982). *Encounters with Unjust Authority*. Chicago, IL: Dorsey.
- Garud, R., Hardy, C., and Maguire, S.** (2007). Institutional Entrepreneurship as Embedded Agency: An Introduction to the Special Issue. *Organization Studies*, 28(7), 957–969.
- Gaskin, J., Berente, N., Lyytinen, K., and Yoo, Y.** (2014). Toward generalizable sociomaterial inquiry: A computational approach for zooming in and out of sociomaterial routines. *MIS Quarterly*, 38(3), 849–871.
- Gibson, J. J.** (1986). *The Ecological Approach to Visual Perception*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Giddens, A.** (1984). *The Constitution of Society*. Berkeley, CA.: University of California Press.
- Giddens, A.** (1991). *Modernity and Self-Identity: Self and Society in The Late Modern Age*. Cambridge: Polity Press.
- Giddens, A.** (1993). *New Rules of Sociological Method*. CA: Stanford University Press.
- Gioia, D. A., Corley, K. G., and Hamilton, A. L.** (2012). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational Research Methods*, 16, 15–31.
- Glaser, V. L.** (2017). Design Performances: How Organizations Inscribe Artifacts to Change Routines. *Academy of Management Journal*, 60(6), 2126–2154.

- Goffman, E.** (1974). *Frame Analysis: An Essay on The Organization of Experience*. New York, NY: Harper and Row.
- Gond, J. P., Cabantous, L., Harding, N., and Learmonth, M.** (2016). What Do We Mean by Performativity in Organizational and Management Theory? The Uses and Abuses of Performativity. *International Journal of Management Reviews*, 18(4), 440–463.
- Gond, J. P., and Nyberg, D.** (2016). Materializing Power to Recover Corporate Social Responsibility. *Organization Studies*, 38(8), 1127–1148.
- Gooday, G. J. N.** (2004). *The Morals of Measurement Accuracy, Irony, and Trust in Late Victorian Electrical Practice*. Cambridge: Cambridge University Press.
- Goodwin, J., and Jasper, J. M.** (1999). Caught in a winding, snarling vine: The structural bias of political process theory. *Sociological Forum*, 14, 27–54.
- Goodwin, J., and Jasper, J. M.** (2004). Trouble in paradigms. *Rethinking social movements: Structure, meaning, and emotion*, 75–93.
- Gramsci, A.** (1971). *The philosophy of praxis. Selections from the prison notebooks of Antonio Gramsci*. London: Lawrence & Wishart.
- Gray, B., Purdy, J. M., and Ansari, S.** (2015) From interactions to institutions: Microprocesses of framing and mechanisms for the structuring of institutional fields. *Academy of Management Review*, 40(1), 115–143.
- Greenwood, R., Diaz, A. M., Xiao Li, S., and Lorente, J. C.** (2010). The Multiplicity of Institutional Logics and the Heterogeneity of Organizational Responses. *Organization Science*, 21(2), 521–539.
- Greenwood, R., Raynard, M., Kodeih, F., Micelotta, E., and Lounsbury, M.** (2011). Institutional Complexity and Organizational Responses. *The Academy of Management Annals*, 5(1), 317–371.
- Gregson, N., and Rose, G.** (2000). Taking Butler elsewhere: Performativities, spatialities and subjectivities. *Environment and Planning D: Society and Space*, 18, 433–452.
- Greiffenhagen, C.** (2014). The Materiality of Mathematics: Presenting Mathematics at the Blackboard. *British Journal of Sociology*, 65(3), 502–528.
- Halford, S.** (2005). Hybrid workspace: Re-spatialisations of work, organisation and management. *New Technology, Work and Employment*, 20(1), 19–33.
- Hardy, C., and Maguire, S.** (2008). Institutional entrepreneurship. In R. Greenwood, C. Oliver, R. Suddaby, and K. Shalin–Anderson (Eds.), *Handbook of Organizational Institutionalism* (pp. 198–217). Thousand Oaks, CA: Sage.
- Hardy, C., and Phillips, N.** (2004). Discourse and Power. In D. Grant, C. Hardy, C. Osrick, and L. Putnam (Eds.), *The SAGE Handbook of Organizational Discourse* (pp. 299–317). London: SAGE Publications Ltd.
- Hardy, C., and Thomas, R.** (2015). Discourse in a Material World. *Journal of Management Studies*, 52(5), 680–696.

- Hargadon, A. and Douglas, Y.** (2001). When innovations meet institutions: Edison and the design of the electric light. *Administrative Science Quarterly*, 46, 476–501.
- Harvey, D.** (1989). *The Condition of Postmodernity: An Inquiry into the Origins of Cultural Change*. Oxford, UK: Blackwell.
- Hawkins, B.** (2015). Ship–shape: Materializing leadership in the British Royal Navy. *Human Relations*, 68(6), 951–971.
- Hayes, N.** (2008). Institutionalizing change in a high–technology optronics company: The role of information and communication technologies. *Human Relations*, 61(2), 243–269.
- Heidegger, M.** (1996). *Being and Time* (Translated by J. Macquarrie and E. Robinson). New York: Harper & Row.
- Hendry, J.** (2000). Strategic decision making, discourse, and strategy as social practice. *Journal of Management Studies*, 37(7), 955–977.
- Henfridsson, O., and Yoo, Y.** (2014). The Liminality of Trajectory Shifts in Institutional Entrepreneurship. *Organization Science*, 25(3), 932–950.
- Heusinkveld, S., Benders, J., and Hillebrand, B.** (2013). Stretching concepts: The role of competing pressures and decoupling in the evolution of organization concepts. *Organization Studies*, 34(1), 7–32.
- Higher Education Law.** (1981). No. 2547, Article No. 33, Ministry of Education, Ankara.
- Hindmarsh, J., and Llewellyn, N.** (2016). Video in Sociomaterial Investigations: A Solution to the Problem of Relevance for Organizational Research. *Organizational Research Methods*, 21(2), 412–437.
- Hirsch, P., and Lounsbury, M.** (2015). Toward a More Critical and “Powerful” Institutionalism. *Journal of Management Inquiry*, 24(1), 96–99.
- Hitt, M. A., Beamish, P. W., Jackson, S. E., and Mathieu, J. E.** (2007). Building theoretical and empirical bridges across levels: Multilevel research in management. *Academy of Management Journal*, 50(6), 1385–1399.
- Hollander, J. A., and Einwohner, R. L.** (2004). Conceptualizing resistance. *Sociological forum*, 19(4), 533–554.
- Hook, D.** (2007). *Foucault, Psychology and the Analytics of Power*. Houndmills, UK: Palgrave Macmillan.
- Horta, H., Veloso, F. M., and Grediaga, R.** (2010). Navel gazing: Academic inbreeding and scientific productivity. *Management Science*, 56(3), 414–429.
- Howard, J. A.** (2000). Social Psychology of Identities. *Annual Review of Sociology*, 26, 367–393.
- Howard, P. N.** (2002). Network ethnography and the hypermedia organization: New media, new organizations, new methods. *New media & society*, 4(4), 550–574.
- Hudson, A.** (2012). *The Rise & Fall of Kodak*. Retrieved April 19, 2019, from <https://www.photosecrets.com/the-rise-and-fall-of-kodak>.

- Hudson, B. A., Okhuysen, G. A., and Creed, W. E. D.** (2015). Power and Institutions: Stones in the Road and Some Yellow Bricks. *Journal of Management Inquiry*, 24(3), 233–238.
- Hultin, L., and Mähring, M.** (2014). Visualizing institutional logics in sociomaterial practices. *Information and Organization*, 24, 129–155.
- Hutchby, I.** (2001) Technologies, texts and affordances. *Sociology*, 35(2), 441–456.
- Iedema, R., Long, D., and Carroll, K.** (2012) Corridor communication, spatial design and patient safety: Enacting and managing complexities. In A. Van Marrewijk, and D. Yanow (Eds.), *Organizational Spaces: Rematerializing the Workaday World*. Cheltenham: Edward Elgar.
- Israel, P. B.** (1998). *Edison: A Life of Invention*. New York: Wiley.
- Jarzabkowski, P.** (2005). *Strategy as Practice: An Activity-Based Approach*. London: Sage.
- Jawecki, G., Füller, J. and Gebauer, J.** (2011). A comparison of creative behaviours in online communities across cultures, *Creativity and Innovation Management*, 20(3), 144–156.
- Jayanti, R. K.** (2010). A netnographic exploration: Listening to online consumer conversations, *Journal of Advertising Research*, 50(2), 181–196.
- Jepperson, R. L.** (1991). Institutions, institutional effects, and institutionalism. In W. W. Powell, and P. J. DiMaggio (Eds.), *The New Institutionalism in Organizational Analysis* (pp. 143–163). Chicago: University of Chicago Press.
- Johnson, P., and Duberley, J.** (2003). Reflexivity in management research. *Journal of Management Studies*, 40, 1279–1303.
- Jones, C., and Masa, F. G.** (2013). From Novel Practice to Consecrated Exemplar: Unity Temple as a Case of Institutional Evangelizing. *Organization Studies*, 34(8), 1099–1136.
- Jones, C., Maoret, M., Massa, F. G., and Svejenova, S.** (2012). Rebels with a cause: Formation, contestation, and expansion of the de novo category “modern architecture,” 1870–1975. *Organization Science*, 23, 1523–1545.
- Jones, K. S.** (2003). What is an affordance? *Ecological Psychology*, 15(2), 107–114.
- Jones, M.** (2014). A matter of life and death: Exploring conceptualizations of sociomateriality in the context of critical care. *MIS Quarterly*, 38(3), 895–925.
- Jorgensen, D. L.** (1989). *Participant Observation: A Methodology for Human Studies*. Newbury Park, CA: Sage.
- Juris, J. S.** (2004). Networked social movements: Global movements for global justice. In M. Castells (Eds.), *The Network Society: A Cross-Cultural Perspective* (pp. 341–362). Northampton: Edward Elgar.
- Juris, J. S.** (2008). *Networking Futures: The Movements Against Corporate Globalization*. Durham, NC: Duke University Press.

- Kallinikos, J., Aaltonen, A., and Marton, A.** (2013). The Ambivalent Ontology of Digital Artifacts. *MIS Quarterly*, 37(2), 357–370.
- Kanter, R. M.** (1977). *Men and Women of the Corporation*. New York: Basic Books.
- Kaplan, S., Milde, J., and Cowan, R. S.** (2016). Symbiont Practices in Boundary Spanning: Bridging the Cognitive and Political Divides in Interdisciplinary Research. *Academy of Management Journal*, 60(4), 1387–1414.
- Kautz, K., and Jensen, T. B.** (2013). Sociomateriality at the royal court of IS: A jester's monologue. *Information and Organization*, 23(1), 15–27.
- Keevers, L., and Sykes, C.** (2016). Food and music matters: Affective relations and practices in social justice organizations. *Human Relations*, 69(8), 1–26.
- Keevers, L., Treleaven, L., Sykes, C., and Darcy, M.** (2012). Made to measure: taming practices with results based accountability. *Organization Studies*, 33(1), 97–120.
- Kellogg, K. C.** (2009). Operating Room: Relational Spaces and Microinstitutional Change in Surgery. *American Journal of Sociology*, 115(3), 657–711.
- Kern, A., Laguecir, A., and Leca, B.** (2017). Behind Smoke and Mirrors: A Political Approach to Decoupling. *Organization Studies*, 39(4), 1–22.
- Khaire, M., and Wadhvani, D.** (2010). Changing landscapes: The construction of meaning and value in a new market category: Modern Indian art. *Academy of Management Journal*, 53, 1281–1304.
- Kohler, T., Fueller, J., Matzler, K., Stieger, D., and Füller, J.** (2011). Co-creation in virtual worlds: The design of the user experience. *MIS Quarterly*, 35(3), 773–788.
- Kornberger, M. and Clegg, S. R.** (2004) Bringing space back in: Organizing the generative building. *Organization Studies*, 25(7), 1095–1114.
- Kyvig, D. E.** (2002). *Daily Life in The United States, 1920–1939 Decades of Promise and Pain*. London: Greenwood Press.
- Labatut, J., Aggeri, F., and Girard, N.** (2012). Discipline and Change: How Technologies and Organizational Routines Interact in New Practice Creation. *Organization Studies*, 33(1), 39–69.
- Lamprou, E.** (2017). Spatiality as Care: A Heideggerian Perspective on Sociomaterial Practices. *Organization Studies*, 38(12), 1–20.
- Langley, A.** (1999). Strategies for theorizing from process data. *Academy of Management Review*, 24(4), 691–710.
- LaPointe, L., and Rivard, S.** (2005). A Multilevel Model of Resistance to Information Technology Implementation, *MIS Quarterly*, 29(3), 461–491.
- Latour, B.** (1991). Technology is society made durable. In J. Law (Eds.), *A Sociology of Monsters: Essays on Power, Technology and Domination* (pp. 103–131), London: Routledge.

- Latour, B.** (1992). Where are the missing masses? The sociology of a few mundane artifacts. In W. E. Bijker, and J. Law (Eds.), *Shaping Technology/Building Society: Studies in Sociotechnical Change*, (pp. 225-259), Cambridge, MA: MIT Press.
- Latour, B.** (1994). Pragmatogonies: A Mythical Account of How Humans and Nonhumans Swap Properties. *American Behavioral Scientist*, 37(6), 791–808.
- Latour, B.** (1999). On recalling ANT. In J. Hassard, and J. Law (Eds). *Actor–Network Theory and After* (pp. 16–25). Oxford: Blackwell Publishers.
- Latour, B.** (2005). *Reassembling the Social: An Introduction to Actor–Network–Theory*. Oxford: Oxford University Press.
- Law, J.** (1999). After ANT: Complexity, Naming and Topology. In J. Hassard, and J. Law (Eds). *Actor–Network Theory and After* (pp. 1-14). Oxford: Blackwell Publishers.
- Lawrence, T. B.** (2008). Power, Institutions and Organizations, In R. Greenwood, C. Oliver, K. Sahlin, & R. Suddaby (Eds.), *The SAGE Handbook of Organizational Institutionalism* (pp. 170–198). London: SAGE Publications.
- Lawrence, T. B., and Suddaby, R.** (2006). Institutions and Institutional Work. In S. R. Clegg, C. Hardy, T. B. Lawrence, and W. R. Nord (Eds.), *Handbook of Organizational Studies* (2nd Ed.) (pp. 215–254). London: SAGE Publications.
- Lawrence, T. B., Leca, B., and Zilber, T. B.** (2013). Institutional Work: Current Research, New Directions and Overlooked Issues. *Organization Studies*, 34(8), 1023–1033.
- Lawrence, T. B., Suddaby, R., and Leca, B.** (2011). Institutional Work: Refocusing Institutional Studies of Organization. *Journal of Management Inquiry*, 20(1), 52–58.
- Lawrence, T. B., Winn, M. I., and Jennings, P. D.** (2001). The temporal dynamics of institutionalization. *Academy of Management Review*, 26(4), 624–644.
- Lawrence, T. B., and Phillips, N.** (2004). From Moby Dick to Free Willy: Macro-cultural discourse and institutional entrepreneurship in emerging institutional fields. *Organization*, 11(5), 689–711.
- Lawrence, T. B., Hardy, C., and Phillips, N.** (2002). Institutional effects of interorganizational collaboration: The emergence of proto-institutions. *Academy of Management Journal*, 45(1), 281–290.
- Layder, D.** (1990) *The Realist Image in Social Science*. London: Macmillan.
- Leblebici, H., Salancik, G. R., Copay, A., and King, T.** (1991). Institutional change and the transformation of interorganizational fields: An organizational history of the U.S. radio broadcasting industry. *Administrative Science Quarterly*, 36, 333–363.
- Lefebvre, H.** (1974). *The Production of Space*. Oxford: Blackwell.

- Leicht, K. T., and Fennell, M. L.** (2008). Institutionalism and the Professions. In R. Greenwood, C. Oliver, K. Sahlin, and R. Suddaby (Eds.), *The SAGE Handbook of Organizational Institutionalism* (pp. 431–449). London: SAGE Publications.
- Leitner, H., Sheppard, E., and Sziarto, K. M.** (2008). The spatialities of contentious politics. *Transactions of the Institute of British Geographers*, 33(2), 157–172.
- Leonardi, P. M.** (2011). When flexible routines meet flexible technologies: Affordance, constraint, and the imbrication of human and material agencies. *MIS Quarterly*, 35(1), 147–167.
- Leonardi, P. M.** (2012a). *Car crashes without cars: Lessons about simulation technology and organizational change from automotive design*. Cambridge, MA: MIT Press.
- Leonardi, P. M.** (2012b). Materiality, sociomateriality, and socio–technical systems: What do these terms mean? How are they related? Do we need them? In P. M. Leonardi, B. A. Nardi, and J. Kallinikos (Eds.), *Materiality and Organizing: Social Interaction in A Technological World* (pp. 25–48). Oxford: Oxford University Press.
- Leonardi, P. M.** (2013). Theoretical foundations for the study of sociomateriality. *Information and Organization*, 23, 59–76.
- Leonardi, P. M., and Barley, S. R.** (2008). Materiality and change: challenges to building better theory about technology and organizing. *Information and Organization*, 18, 159–176.
- Leonardi, P., and Barley, S. R.** (2010). What's under construction here? Social action, materiality, and power in constructivist studies of technology and organizing. *Academy of Management Annals*, 4(1), 1–51.
- Levy, D. L., and Scully, M.** (2007). The institutional entrepreneur as modern prince: The strategic face of power in contested fields. *Organization Studies*, 28, 971–991.
- Lounsbury, M.** (2007). A tale of two cities: Competing logics and practice variation in the professionalizing of mutual funds. *Academy of Management Journal*, 50(2), 289–307.
- Lounsbury, M., Ventresca, M., and Hirsch, P. M.** (2003). Social movements, field frames and industry emergence: A cultural–political perspective on US recycling. *Social Economic Review*, 1, 71–104.
- Lukes, S.** (2005). *Power: A Radical View* (2nd ed.). London: Palgrave.
- Maguire, S., Hardy, C., and Lawrence, T.** (2004). Institutional entrepreneurship in emerging fields: HIV/AIDS treatment advocacy in Canada. *Academy of Management Journal*, 47(5), 657–679.
- Mahoney, J., and Thelen, K.** (2010). *Explaining Institutional Change: Ambiguity, Agency and Power*. Cambridge: Cambridge University Press.
- Marabelli, M., and Newell, S.** (2014). Knowing, Power and Materiality: A Critical Review and Reconceptualization of Absorptive Capacity. *International Journal of Management Reviews*, 16(4), 479–499.

- March, J. G., and Olsen, J. P.** (1989). *Rediscovering Institutions: The Organizational Basis of Politics*. New York, NY: The Free Press.
- Martin, J. L.** (2009). *Social Structures*. Princeton, NJ: Princeton University Press.
- Martin, J., and Sugarman, J.** (1999). The Psychology of Human Possibility and Constraint. Albany, NY: SUNY Press.
- Marullo, S., Pagnucco, R., and Smith, J.** (1996). Frame changes and social movement contraction: U.S. peace movement framing after the cold war. *Sociological Inquiry*, 66(1), 1–28.
- Massey, D.** (1992). Politics and space/time. *New Left Review*, 196, 65–84.
- Mazmanian, M., Cohn, M., and Dourish, P.** (2014). Dynamic Reconfiguration in Planetary Exploration: A Sociomaterial Ethnography. *MIS Quarterly*, 38(3), 831–848.
- McAdam, D.** (1994). Culture and social movements. In E. Larana, H. Johnston, and J. R. Gusfield (Eds.), *New Social Movements: From Ideology to Identity* (pp. 36–57). Philadelphia, PA: Temple University Press.
- McAdam, D.** (2003). Beyond structural analysis: Toward a more dynamic understanding of social movements. In M. Diani, and D. McAdam (Eds.), *Social Movements and Networks: Relational Approaches to Collective Action* (pp. 281–298). Oxford: Oxford University Press.
- McAdam, D., Tarrow, S., and Tilly, C.** (2001). *Dynamics of Contention*. New York: Cambridge University Press.
- McFarlane, C.** (2009). Translocal assemblages: Space, power and social movements. *Geoforum*, 40(4), 561–567.
- McGuire, W. J.** (1968). Personality and attitude change: An information–processing theory. In A. G. Greenwald, T. C. Brock, and T. M. Ostrom (Eds.), *Psychological Foundations of Attitudes* (pp. 171 – 196). San Diego, CA: Academic Press.
- McIntyre, A.** (2008). *Participatory Action Research: Qualitative Research Methods Series 52*. Thousand Oaks, CA: Sage.
- Melucci, A.** (1989). *Nomads of The Present: Social Movements and Individual Needs in Contemporary Society*. Philadelphia: Temple University Press.
- Meyer, J. W., and Rowan, B.** (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340–363.
- Miller, B.** (2013). Spatialities of mobilization: Building and breaking relationships. In W. Nicholls, B. Miller, and J. Beaumont (Eds.), *Spaces of Contention: The Spatialities of Social Movements*. (pp. 285–298). Farnham: Ashgate.
- Miller, B. A.** (2000). *Geography and Social Movements: Comparing Antinuclear Activism in The Boston Area*. Minneapolis, Minnesota: University of Minnesota Press.
- Ministry of Health (MoH).** (2014). *Strategic Plan 2014–2018*.

- Mintzberg, H.** (1983). *Power in and around Organizations*. Englewood Cliffs, NJ: Prentice–Hall.
- Misangyi, V. F., Weaver, G. R., and Elms, H.** (2008). Ending corruption: The interplay among institutional logics, resources and institutional entrepreneurs. *Academy of Management Review*, 33(3), 750–770.
- Mizruchi, M. S., and Fein, L. C.** (1999). The Social Construction of Organizational Knowledge: A Study of the Uses of Coercive, Mimetic, and Normative Isomorphism. *Administrative Science Quarterly*, 44, 653–683.
- Mkono, M.** (2012). A netnographic examination of constructive authenticity in victoria falls tourist (restaurant) experiences. *International Journal of Hospitality Management*, 31(2), 387–394.
- Monteiro, E. and Hanseth, O.** (1996), Social Shaping of Information Infrastructure: On Being Specific about the Technology, In W. J. Orlikowski et al. (Eds.), *Information Technology and Changes in Organizational Work* (pp. 325–343), London: Chapman Hall.
- Monteiro, P., and Nicolini, D.** (2015). Recovering Materiality in Institutional Work: Prizes as an Assemblage of Human and Material Entities. *Journal of Management Inquiry*, 24(1), 61–81.
- Morrill, C., and Fine, G. A.** (1997). Ethnographic Contributions to Organizational Sociology. *Sociological Methods & Research*, 25, 424–51.
- Mouzelis, N.** (1999). Exploring Post–Traditional Orders: Individual Reflexivity, Pure Relations and Duality of Structure. In M O’Brien, S. Penna, and C. Hay (Eds.), *Theorising Modernity*. London and New York: Longman.
- Mouzelis, N. P.** (1995). *Sociological Theory: What Went Wrong?* New York: Routledge.
- Mouzelis, N. P.** (2008). *Modern and Post Modern Social Theorizing*. Cambridge: Cambridge University Press
- Munir, K. A.** (2014). A Loss of Power in Institutional Theory. *Journal of Management Inquiry*, 24(1), 90–92.
- Munir, K. A., and Phillips, N.** (2005). The Birth of the ‘Kodak Moment’: Institutional Entrepreneurship and the Adoption of New Technologies. *Organization Studies*, 26(11), 1665–1687.
- Munro, I., and Jordan, S.** (2013). ‘Living Space’ at the Edinburgh Festival fringe: Spatial tactics and the politics of smooth space. *Human Relations*, 66(11), 1497–1525.
- Mutch, A.** (2002). Actors and networks or agents and structures: Towards a realist view of information systems. *Organization*, 9, 513–532.
- Mutch, A.** (2007). Reflexivity and the Institutional Entrepreneur: A Historical Exploration. *Organization Studies*, 28(7), 1123–1140.
- Mutch, A.** (2013). Sociomateriality — Taking the wrong turning?. *Information and Organization*, 23, 28–40.

- Nicholls, W.** (2009). Place, networks, space: Theorising the geographies of social movements. *Transactions of the Institute of British Geographers*, 34(1), 78–93.
- Nicholls, W., Miller, B., and Beaumont, J.** (2013) (Eds.). *Spaces of Contention: Spatialities and Social Movements*. Aldershot: Ashgate.
- Nielsen, J. A., Mathiassen, L., and Newell, S.** (2014). Theorization and translation in information technology institutionalization: Evidence from Danish home care. *MIS Quarterly*, 38(1), 165–186.
- Offe, C.** (1985). New social movements: Changing boundaries of the political. *Social Research*, 52, 817–868.
- Oliver, C.** (1992). The Antecedents of Deinstitutionalization. *Organization Studies*, 13(4), 563–588.
- Orlikowski, W. J.** (2007). Sociomaterial Practices: Exploring Technology at Work, *Organization Studies*, 28, 1435–1448.
- Orlikowski, W. J.** (2009). The sociomateriality of organisational life: considering technology in management research. *Cambridge Journal of Economics*, 34, 125–141.
- Orlikowski, W. J., and Scott, S. V.** (2008). Sociomateriality: Challenging the Separation of Technology, Work and Organization. *The Academy of Management Annals*, 2(1), 433–474.
- Orlikowski, W. J., and Scott, S. V.** (2015). The Algorithm and the Crowd: Considering the Materiality of Service Innovation. *MIS Quarterly*, 39(1), 201–216.
- Orlikowski, W. J.** (1992). The duality of technology: Rethinking the concept of technology in organizations. *Organization Science*, 3(3), 398–427.
- Orlikowski, W. J.** (2000). Using technology and constituting structures: A practice lens for studying technology in organizations. *Organization Science*, 11(4), 404–428.
- Orlikowski, W. J.** (2002). Knowing in practice: Enacting a collective capability in distributed organizing. *Organization Science*, 13, 249–273.
- Orlikowski, W. J., and Barley, S. R.** (2001). Technology and institutions: What can research on information technology and research on organizations learn from each other? *MIS Quarterly*, 25, 145–165.
- Öncü, A.** (2013). Turkish capitalist modernity and the Gezi Revolt. *Journal of Historical Sociology*, 27(2), 151–176.
- Özseven, M., Danişman, A., and Bingöl, A. S.** (2014). Transformation or Development?: Towards a New Institutional Logic in the Management of Public Hospitals. *ODTÜ Gelişme Dergisi*, 41, 119–150.
- Panayiotou, A., and Kafiris, K.** (2011). Viewing the language of space: Organizational spaces, power, and resistance in popular films. *Journal of Management Inquiry*, 20(3), 264–284.
- Parsons, T.** (1966). *Societies: Evolutionary and Comparative Perspectives*. Englewood Cliffs, NJ: Prentice Hall.

- Pentland, B. T., and Feldman, M. S.** (2005). Organizational routines as a unit of analysis. *Industrial and Corporate Change*, 14, 793–815.
- Pentland, B.T., Hærem, T., and Hillison, D.** (2011). The (N)Ever–Changing World: Stability and Change in Organizational Routines. *Organization Science*, 22(6), 1369–1383.
- Peponis, J.** (1985). The spatial culture of factories. *Human Relations*, 38(4), 357–390.
- Petrakaki, D., Klecun, E., and Cornford, T.** (2014). Changes in healthcare professional work afforded by technology: the introduction of a national electronic patient record in an English hospital. *Organization*, 23(2), 206–226.
- Petrakaki, D., Klecun, E., and Cornford, T.** (2016). Changes in healthcare professional work afforded by technology: the introduction of a national electronic patient record in an English hospital. *Organization*, 23(2), 206–226.
- Pettigrew, A. M.** (1990). Longitudinal Field Research on Change: Theory and Practice. *Organization Science*, 1(3), 267–292.
- Pfeffer, J., and Salancik, G. R.** (1978). *The External Control of Organizations: A Resource Dependence Perspective*. New York, NY: Harper and Row.
- Phillips, N., Lawrence, T. B., and Hardy, C.** (2004). Discourse and institutions. *Academy of Management Review*, 29, 635–652.
- Pickering, A.** (1989). Living in the Material World: On Realism and Experimental Practice. In D. Gooding, T. J. Pinch, and S. Schaffer (Eds.) *The Uses of Experiment: Studies of Experimentation in the Natural Sciences* (pp. 275–297). Cambridge: Cambridge University Press.
- Pickering, A.** (1993). The Mangle of Practice: Agency and Emergence in the Sociology of Science. *American Journal of Sociology*, 99(3), 559–589.
- Pickering, A.** (1995). *The Mangle of Practice: Time, Agency and Science*. Chicago: The University of Chicago Press.
- Pickering, A.** (2001). Practice and posthumanism: social theory and a history of agency. In T. R. Schatzki, K. K. Cetina, and E. V. Savigny (Eds.) *The Practice Turn in Contemporary Theory* (pp. 172–183). London: Routledge.
- Pickering, A.** (2012). The Robustness of Science and the Dance of Agency. In L. Soler, E. Trizio, T. Nickles, and W. C. Wimsatt (Eds.) *Characterizing the Robustness of Science* (pp. 317–328), London: Springer.
- Pile, S.** (1996). Opposition, political identities, and spaces of resistance. In S. Pile, and M. Keith (Eds.), *Geographies of Resistance* (pp. 1–32). London: Routledge.
- Pinch, T.** (2008). Technology and institutions: Living in a material world. *Theory and Society*, 37, 461–483.
- Polanyi, K.** (1944). *The Great Transformation: Economic and Political Origins of Our Time*. New York: Rinehart.

- Powell, W. W., and Colyvas J. A.** (2008). Microfoundations of Institutional Theory, In G. Greenwood, C. Oliver, K. Sahlin, and R. Suddaby (Eds.), *The SAGE Handbook of Organizational Institutionalism* (pp. 276–299). London: SAGE Publications.
- Public Hospitals Statistics Report (PHSR).** (2017). Ministry of Health (General Directorate of Public Hospitals).
- Rao, H., and Kenney, M.** (2008). New forms as settlements. In R. Greenwood, C. Oliver, K. Sahlin, and R. Suddaby (Eds.), *The Sage Handbook of Organizational Institutionalism* (pp. 352–370). London: Sage.
- Rao, H., Monin, P., and Durand, R.** (2003). Institutional change in de Toqueville: Nouvelle cuisine as an identity movement in French gastronomy. *American Journal of Sociology*, 108(4), 795–843.
- Rao, H., Morrill, C., and Zald, N.** (2000). Power plays: How social movements and collective action create new organizational forms. *Research in Organizational Behaviour*, 22, 239–282.
- Rashid, M., Caine, V., and Goetz, H.** (2015). The Encounters and Challenges of Ethnography as a Methodology in Health Research. *International Journal of Qualitative Methods*, 1–16.
- Raviola, E., and Norbäck, M.** (2013). Bringing technology and meaning into institutional work: Making news at an Italian business newspaper. *Organization Studies*, 34(8), 1171–1194.
- Reckwitz, A.** (2002). Toward a theory of social practices: A development in cultural theorizing. *European Journal of Social Theory*, 5(2), 243–263.
- Reed, M. I.** (2001). Organization, Trust and Control: A Realist Analysis. *Organization Studies*, 22(2), 201–228.
- Riemer, K., and Johnston, R. B.** (2017). Clarifying ontological inseparability with Heidegger's analysis of equipment. *MIS Quarterly*, 41(4), 1059–1081.
- Rokka, J., and Moisander, J.** (2009). Environmental dialogue in online communities: Negotiating ecological citizenship among global travellers. *International Journal of Consumer Studies*, 33(2), 199–205.
- Rosol, M.** (2014). On resistance in the post-political city: Conduct and counter-conduct in Vancouver. *Space and Polity*, 18(1), 70–84.
- Schatzki, T. R.** (2001a). Introduction: Practice Theory. In T. R. Schatzki, K. K. Cetina, and E. V. Savigny (Eds.), *The Practice Turn in Contemporary Theory* (pp. 11–23). London: Routledge.
- Schatzki, T. R.** (2001b). Practice mind-ed orders. In T. R. Schatzki, K. K. Cetina, and E. V. Savigny (Eds.), *The Practice Turn in Contemporary Theory* (pp. 50–63). London: Routledge
- Scherer, J.** (1999). Light and Libraries. *Library Hi Tech*, 17(4), 358–371.
- Schneiberg, M., and Lounsbury, M.** (2008). Social Movements and Institutional Analysis. In R. Greenwood, C. Oliver, R. Suddaby, and K. Sahlin (Eds.), *The Sage Handbook of Organizational Institutionalism* (pp.650–672). London: SAGE Publications.

- Scott, J. C.** (1990). *Domination and The Arts of Resistance: Hidden Transcripts*. New Haven, Connecticut: Yale University Press.
- Scott, S. V., and Orlikowski W. J.** (2013). Sociomateriality – taking the wrong turning? A response to Mutch. *Information and Organization*, 23(1), 77–80.
- Scott, W. R.** (2000). *Institutional Change and Healthcare Organizations: From Professional Dominance to Managed Care*. Chicago: University of Chicago Press.
- Scott, W. R.** (2001). *Institutions and Organizations* (2nd Ed.). Thousand Oaks, CA: Sage.
- Scott, W. R.** (2003). Institutional carriers: reviewing modes of transporting ideas over time and space and considering their consequences. *Industrial and Corporate Change*, 12(4), 879–894.
- Scott, W. R.** (2008). *Institutions and Organizations: Ideas and Interests* (3rd Ed.). Thousand Oaks, CA: Sage.
- Seo, M. G., and Creed, W. E. D.** (2002). Institutional contradictions, praxis and institutional change: A dialectical perspective. *Academy of Management Review*, 27(2), 222–247.
- Sewell, G.** (1998). The Discipline of Teams: The Control of Team–Based Industrial Work Through Electronic and Peer Surveillance. *Administrative Science Quarterly*, 43(2), 397–428.
- Shiffman, R., Bell, R., Brown, L. J., and Elizabeth, L.** (Eds.). (2012). *Beyond Zuccotti Park: Freedom of Assembly and The Occupation of Public Space*. New York: New Village Press.
- Shortt, H.** (2015) Liminality, space and the importance of ‘transitory dwelling places’ at work. *Human Relations*, 68(4), 633–658.
- Siebert, S., Wilson, F., and Hamilton, J. R. A.** (2017). "Devils May Sit Here:" The Role of Enchantment in Institutional Maintenance. *Academy of Management Journal*, 60(4), 1607–1632.
- Skågeby, J.** (2009), Exploring qualitative sharing practices of social metadata: Expanding the attention economy, *The Information Society*, 25(1), 60–72.
- Skågeby, J.** (2011), Pre–produsage and the remediation of virtual products. *New Review of Hypermedia and Multimedia*, 17(1), 141–159.
- Smets, M., Morris, T., and Greenwood, R.** (2012). From Practice to Field: A Multilevel Model of Practice–Driven Institutional Change. *Academy of Management Journal*, 55(4), 877–904.
- Smith, N.** (1990). *Uneven Development: Nature, Capital and the Production of Space* (2nd Ed.). Oxford, UK: Blackwell.
- Snow, D. A.** (2004). Social movements as challenges to authority: Resistance to an emerging conceptual hegemony. In D. J. Myers, and D. M. Cress (Eds.), *Authority in Contention* (Vol. 25, pp. 3–25). Research in Social Movements, Conflicts and Change. Bingley, UK: Emerald Group Publishing Limited.

- Snow, D. A., and Benford, R. D.** (1988). Ideology, frame resonance, and participant mobilization. *International Social Movement Research*, 1(1), 197–217.
- Snow, D. A., and Benford, R. D.** (1992). Master frames and cycles of protest. In A. D. Morris, and C. M. Mueller (Eds.), *Frontiers in Social Movement Theory* (pp. 133–155). Binghamton, NY: Vail Ballou Press.
- Snow, D. A., Rochford, E. B., Worden, S. K., and Benford, R. D.** (1986). Frame alignment processes, micromobilization and movement participation. *American Sociological Review*, 51, 464–481.
- Soja, E.** (1989). *Postmodern Geographies: The Reassertion of Space in Critical Social Theory*. London: Verso.
- Steets, S.** (2016). Taking Berger and Luckmann to the Realm of Materiality: Architecture as a Social Construction. *Cultural Sociology*, 10(1), 93–108.
- Suchman, L.** (2002). Located accountabilities in technology production. *Scandinavian Journal of Information Systems*, 14(2), 91–105.
- Suchman, M. C.** (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Journal*, 20(3), 571–610.
- Swidler, A.** (2001). What anchors cultural practices. In T. R. Schatzki, K. K. Cetina, and E. V. Savigny (Eds.), *The Practice Turn in Contemporary Theory* (pp. 83–101). London: Routledge
- Symon, G., and Pritchard, K.** (2015). Performing the Responsive and Committed Employee through the Sociomaterial Mangle of Connection. *Organization Studies*, 36(2), 241–263.
- Taylor, J. R., Groleau, C., Heaton, L., and Van Every, E.** (2001). *The Computerization of Work: A Communication Perspective*. Thousand Oaks, CA: Sage Publications.
- Taylor, S., and Spicer, A.** (2007) Time for space: A narrative review of research on organizational spaces. *International Journal of Management Reviews*, 9(4), 325–346.
- Thornton, P.** (2004). *Markets from Culture: Institutional Logics and Organizational Decisions in Higher Education Publishing*. Stanford, CA: Stanford University Press.
- Thornton, P. H., and Ocasio, W.** (2008). Institutional Logics. In R. Greenwood, C. Oliver, R. Suddaby, and K. Sahlin (Eds.), *The Sage Handbook of Organizational Institutionalism* (pp.99–129). London: SAGE Publications.
- Tikkanen, H., Hietanen, J., Henttonen, T., and Rokka, J.** (2009). Exploring virtual worlds: success factors in virtual world marketing. *Management Decision*, 47(8), 1357–1381.
- Tilly, C.** (2003). *The Politics of Collective Violence*. Cambridge: Cambridge University Press.
- Townley, B.** (1993). Foucault, power/knowledge, and its relevance for human resource management. *Academy of Management Review*, 18(3), 518–545.

- Trom, D., and Cefai, D.** (2013). *The Wiley–Blackwell Encyclopedia of Social and Political Movements*. Hoboken, New Jersey: Wiley-Blackwell
- Tuncalp, D.** (2016). Questioning the ontology of Sociomateriality: A critical realist perspective. *Management Decision*, 54(5), 1073–1087.
- Tunçalp, D., and Lê, P. L.** (2014). (Re)Locating boundaries: A systematic review of online ethnography. *Journal of Organizational Ethnography*, 3(1), 59–79.
- Turner, V.** (1982) *From Ritual to Theatre: The Human Seriousness at Play*. New York: Performing Arts Journal.
- Ülgü, M.,** (2008). *Improvements in Hospital Information Systems*. Ministry of Health (Department of Information Technologies) Presentation, Antalya.
- Üsdiken, B.** (2004). The French, the German and the American: Higher education for business in Turkey, 1883–2003. *New Perspectives on Turkey*, 31, 5–38.
- Üsdiken, B., Topaler, B., and Koçak, Ö.** (2013). Law, market and organizational diversity: Turkish universities in the post–1981 period (in Turkish). *Ankara Üniversitesi SBF Dergisi*, 68(3), 191–227.
- Venters, W., Oborn, E., and Barrett, M.** (2014). A trichordal temporal approach to digital coordination: the sociomaterial mangling of the Cern Grid. *MIS Quarterly*, 38(3), 927–949.
- Wang, P.** (2010). Chasing the hottest it: Effects of information technology fashion on organizations. *MIS Quarterly*, 34(1), 63–85.
- Wapshott, R., and Mallett, O.** (2011). The spatial implications of homeworking: a Lefebvrian approach to the rewards and challenges of home–based work. *Organization*, 19(1), 63–79.
- Ward, K. J.** (1999). Cyber–ethnography and the emergence of the virtually new community. *Journal of Information technology*, 14(1), 95–105.
- Weizman, E.** (2007). *Hollow Land: Israel's Architecture of Occupation*. London: Verso.
- Werner, M. D., and Cornelissen, J. P.** (2014). Framing the change: Switching and blending frames and their role in instigating institutional change. *Organization Studies*, 35(10), 1449–1472.
- Whittle, A., and Spicer, A.** (2008). Is Actor Network Theory Critique? *Organization Studies*, 29(4), 611–629.
- Why Did Kodak Fail and What Can You Learn from its Demise?** (2018). Retrieved April 19, 2019, from https://medium.com/@brand_minds/why-did-kodak-fail-and-what-can-you-learn-from-its-failure-70b92793493c.
- Woodward, J.** (1958). *Management and Technology*. London: HMSO.
- Wright, A. L., Zammuto, R. F., and Liesch, P. W.** (2017). Maintaining the Values of A Profession: Institutional Work and Moral Emotions in The Emergency Department. *Academy of Management Journal*, 60(1), 200–237.

- Yates, J., & Orlikowski, W. J.** (1992). Genres of Organizational Communication: A Structural Approach to Studying Communication and Media. *Academy of Management Review*, 17(2), 299–326.
- Yin, R. K.** (1994). *Case Study Research: Design and Methods* (2nd Ed.). Newbury Park, CA: Sage Publications.
- Zibechi, R.** (2012). *Territories in Resistance. A Cartography of Latin American Social Movements*. Oakland, CA: AK Press.
- Zietsma, C., and McKnight, B.** (2009). Building the iron cage: Institutional creation work in the context of competing proto-institutions. In T. B. Lawrence, R. Suddaby, and B. Leca (Eds.), *Institutional Work: Actors and Agency in Institutional Studies of Organizations* (pp 143–177). Cambridge: Cambridge University Press.
- Zilber, T. B.** (2013). Institutional logics and institutional work: Should they be agreed? In M. Lounsbury, and E. Boxenbaum (Eds.), *Institutional Logics in Action* (Vol. 39) (pp. 77–96). Bingley, UK: Emerald Group.
- Zucker, L. G.** (1977). The role of institutionalization in cultural persistence. *American Sociological Review*, 42, 726–743.

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EDUCATION

- **B.Sc.** : 2005, Başkent University, Engineering Faculty, Biomedical Engineering Department
- **M.Sc.** : 2008, Middle East Technical University, Informatics Institute, Medical Informatics Department

PROFESSIONAL EXPERIENCE:

February 2016 – ...

İTÜ ARI Teknokent, Business Development – Marketing, İstanbul

Senior Expert

- Responsible from scale-up incubator İTÜ MAGNET which is designed for high-potential start-ups.
- Managing European Union funded projects.
- Developing new programs and projects to support the strategic goals of the company.
- Developing business plans and monitoring outcomes of new programs and projects.
- Collaborating with internal and external partners to design and produce marketing and communication materials meeting the needs of projects and programs.

August 2008 – February 2016

Fresenius Medical Care, Medical Support Department, İstanbul

Clinical Data Supervisor

- Managing implementation projects of medical information systems (Budgeting, Scheduling, Implementing, Training, Evaluation, and Improvement) in collaboration with responsible physicians and FMC Global.
- Managing Electronic Health Record (EHR) system of Fresenius Medical Care (FMC) which is used by physicians and nurses in FMC dialysis centers.
- Developing and maintaining data management plan.
- Ensuring data quality of EHR system, performance management (Balanced Scored Card) system and presenting outputs to related parties.
- Developing data transfer agreements with external data vendors.
- Designing and preparing operational and medical benchmarking reports.
- Performing training on EHR systems, create user guides and electronic learning documents.
- Assisting and providing input into study and project-level data analysis.

September 2007 – July 2008

Gülhane Military Medical Academy (GMMA), Biomedical Engineering Center, Engineering Part, Ankara

Second Lieutenant

- Preparing technical specifications of the medical equipment.
- Preparing Technical Reports for medical equipment.
- Participating in the inspection committee of medical equipment as a technical member.

February 2006 – March 2007

Eczacıbaşı – Baxter, Technical Services Department, Ankara

Technical Support Engineer

- Performing maintenance, repair, and calibration and ISO 9001 quality system documentation of peritoneal dialysis machines.
- Performing maintenance, repair, and calibration operations and ISO 9001 quality system documentation of infusion pumps.

REWARDS:

- National Ph.D. Scholarship Program
Awarded by TÜBİTAK (The Scientific and Technological Research Council of Turkey) to support successful students during their Ph.D. program.
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Award is given by Istanbul Technical University to postgraduate students whose research papers are accepted for oral presentations in international conferences.
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- Graduation Ranking
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PUBLICATIONS AND PRESENTATIONS ON THE THESIS:

- **Güneştepe, K., & Tuncalp, D.** 2016. Viva Solidarity! Framing repertoire of emerging social movements against institutional change in two Turkish universities. *Research in the Sociology of Organizations*, 45,297–326.
- **Güneştepe, K., & Tuncalp, D.** 2019. Materiality, Power, and Actorhood in Institutional Change and Stability. *Örgüt Kuramı Sempozyumu*, February 8-9, İzmir, Turkey
- **Güneştepe, K., & Tuncalp, D.** 2017. Sociomaterial dynamics of practices in institutional change: A study from the Turkish healthcare field. *European Group for Organization Studies Colloquium*, July 6-8, Copenhagen, Denmark.
- **Güneştepe, K., & Tuncalp, D.** 2016. Sociomaterial embeddedness and power in institutional maintenance and change: An ethnographic study of organizational routines in two hospitals. *European Group for Organization Studies Colloquium*, July 7-9, Naples, Italy.
- Tuncalp, D., & **Güneştepe, K.** 2014. Quest for an alternative: Spatial repertoire of the “Assistants’ Solidarity” movement in two Turkish Universities. *European Group for Organization Studies Colloquium*, July 3-5, 2014 Rotterdam, Netherlands.

OTHER PUBLICATIONS AND PRESENTATIONS:

- Aşçı, G., Marcelli, D., Çeltik, A., Grassmann, A., **Güneştepe, K.**, Yaprak, M., Tamer, A. F., Turhan, M.N., Sever, M. Ş., & Ok, E. 2015. Comparison of Turkish and US Hemodialysis Patient Mortality Rates: An Observational Cohort Study, *Turkish Nephrology, Dialysis and Transplantation Journal*, 24(3), Antalya, Turkey.
- Ok, E., Demirci, C., Yüksel, K., Adam, S.M., Koç, S. K., Erten, S., Odabaş, A.R., Töz, H., Özkahya, M., Kırçelli, F., Sevinç, E., Seziş, M., **Güneştepe, K.**, Töz, F., & Aşçı, G. 2015. Three-Times Weekly Nocturnal Home Hemodialysis is Associated with Improved Survival Compared to Conventional Hemodialysis, *Turkish Nephrology, Dialysis and Transplantation Journal*, 24(3), Antalya, Turkey.
- Sever, M.Ş., Artan, S., Kırçelli, F., Yılmaz, M., Açıcı, M., Doğan, C., **Güneştepe, K.**, Başçı, A., & Ok, E. 2013. Does Gender Difference Matter in the Application and Consequences of Maintenance Hemodialysis?, *Turkish Nephrology, Dialysis and Transplantation Journal*, 22(3), Antalya, Turkey.
- Başçı, A., Doğan, C., Sever, M.Ş., **Güneştepe, K.**, Yalçın, T., Yazıcı, H., & Ok, E. 2009. The cost of Hemodialysis: How can we reduce the cost?, *Turkish Nephrology, Dialysis and Transplantation Journal*, 18, Antalya, Turkey.

- Tuncalp, D., & **Güneştepe, K.** 2018. The temporality and emergence of place identity at coworking spaces: A process study of ‘ITU Magnet Advanced Start-up Center’. *8th Organizations, Artifacts and Practices Workshop*, June 20-22, Amsterdam, Netherlands.
- **Güneştepe, K.**, Güldalı, L., Çetin, S., Kırçelli, F., Ünal, E., & Eren L. 2014. Performance centered quality management in dialysis. *Ministry of Health - 4th Quality and Safety in Healthcare Awards*, November 20-22, Antalya, Turkey.
- **Güneştepe, K.**, & Doğan, C. 2012. Systems communicating with each other in dialysis. *Turkish Medical Informatics Conference*, November 15-17, Antalya, Turkey.
- **Güneştepe, K.**, & Duman, F. 2005. Power Supply Network Failure Recorder, *National Biomedical Engineering Meeting*, May 25-27, İstanbul, Turkey.

