Breathing Life into a Standard : The configuration of resuscitation in practices of informing

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Standardisation is commonly thought of as leading to uniformity and order while practices are regarded as dynamic. They evolve and change through repeated enactments. This study explores the meeting of these two apparently conflicting phenomena by inquiring into how a specific piece of standardised information, namely the standard for bystander cardiopulmonary resuscitation (CPR), is configured in the practices of lifesaving and bystander CPR-training. In pursuits of making the standard an intervention to be carried out by the lay public, it is linked to technologies, hopes and aspirations. In these activities other configurations of lifesaving and resuscitation than that delineated by the standard appear. The ways in which information features and informing happens in these pursuits are diverse and shown to have implications for the shaping of lay rescuers. This study consequently raises questions about how standardised information is configured in practices and how diverse ways in which informing happens in practice are associated with different forms of governance.

Karolina Lindh, Department of Art and Cultural Sciences Lund University. *Breathing Life into a Standard* is her doctoral thesis in Information Studies.

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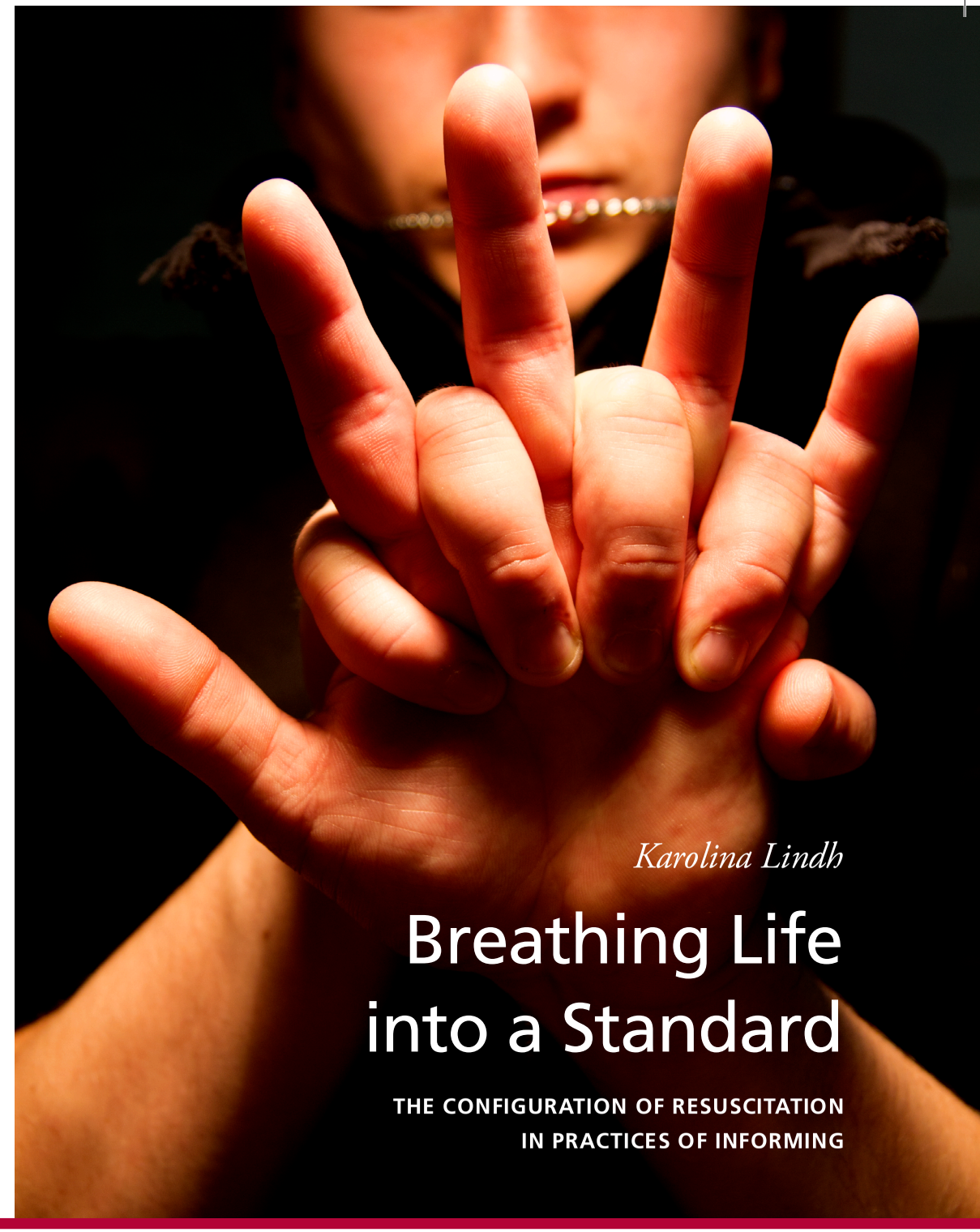

Karolina Lindh

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Lund 20 July 2015

Karolina Lindh

1. Introduction

At the beginning of the cardiopulmonary resuscitation (CPR) class Lena, the instructor, asks the participants "have you had any incidents at your workplaces?" and "do you know how to call?" [OB 15]. Her questions do not get any answers that she finds satisfying, and she goes on to tell two young women that there is a defibrillator at the shopping centre where they work, are they aware of that? No, they are not. Lena continues telling the class about where it is kept, which is well hidden behind a counter where they sell lottery tickets and where people can bet on horses – not an ideal location for a defibrillator, she says.

This very brief vignette is from one of the CPR classes I observed while gathering material for this study. I use it here, and in context below, to introduce the topic of this dissertation. What is happening in the sequence above? Why is it interesting?

The guidelines for how to perform cardiopulmonary resuscitation that Lena is about to introduce to the class are standardised and simplified in comparison with those applied for treating cardiac arrest in hospitals. All guidelines for cardiopulmonary resuscitation have been developed and determined by international medical expertise, something that will be discussed further in Chapter 4. The simplified standard that the class is about to learn is called basic life support[1] and includes basic measures for maintaining circulation until paramedics arrive. These guidelines typically reach the lay public through First Aid and CPR classes such as the one the sequence above is taken from. The total number of attendees of these types

1 In this text I will use basic life support, CPR guidelines and the CPR standard interchangeably. If I refer to resuscitation standards and guidelines which are not for the lay public but for medical professionals this will be explicit.

of classes in Sweden was calculated in 2010 at two million (Strömsöe et al., 2010, p. 212)[2]. However, Lena does not talk about either medicine or standards. She talks about everyday activities such as work, phone calls, shopping, and familiar places such as shopping centres and counters where lottery ticket are sold. By doing so she focuses on particular situations in which the participants are meant to know how to act and intervene. The CPR classes can be seen as constituting a junction between the standardised CPR guidelines and the everyday life of the participants taking part in the classes.

I can think of several situations in which I encounter CPR without being a casualty or a helper myself. Apart from having been encouraged to take a CPR class at work, I see defibrillators when I go to the gym and on the platforms of the central station in a nearby city. When I go shopping for clothes it happens that I learn from a sign at the entrance that the staff have CPR training and that there is a defibrillator in the shop. In the newspaper I read about accidents and acts of everyday heroism, with ordinary people performing CPR in critical situations where supposedly anyone can make a difference. I have felt pain in my hands and sweat running down my back from doing repeated exercises of chest compressions in CPR courses. I have also downloaded an application to my smartphone with instructions for how to perform CPR. I have doubted my ability of actually being able to perform in real life the measures and steps I have learned on courses, and I still do. CPR appears in different practices and turns up in different forms, and it is also associated with hopes and fears.

All this illustrates how resuscitation and information about resuscitation are embedded in everyday life activities making resuscitation something else, or something more, than a standardised script. Information can be said to be enmeshed across these activities (e.g., Cox 2012; 2013). In Information Studies[3] there are a number of investigations of how information is created, distributed, managed and made sense of that cover a very diverse

2 Sweden today has approximately 9 million inhabitants.

3 My reasons for refering to the research discipline as Information Studies rather that Information Science or Library and Information Science is to emphasise that this study is situated within a humanistic and social science oriented section of the discipline.

range of practices, including a variety of topics from hobby gourmet cooking (Hartel 2010) and work practices of various professional groups (e.g., Veinot 2007; Lloyd 2007; 2009a) to how environmental information is made sense of in everyday life practices (Haider 2011; 2012). Studies like these approach information as something that is produced, distributed and made sense of in practices, such as for instance cooking. This does not necessarily correspond to an individually experienced need for information or to information that is intentionally sought. When Lena introduces what participants are going to learn in class she doesn't talk about the standard, she talks about other recognisable and familiar activities connected to what they will do and talk about in class.

The heterogeneity of practices is contrasted by the uniformity of the CPR standard. Discussing the standardisation of organisations, sociologists and management scholars Göran Ahrne, Nils Brunsson and Christina Garsten (2000, p. 55) write: "Standardization is generally expected to improve things: a standard is something good, usually the best". Standards are thought of as universal and consequently applicable in a multitude of situations; they travel. This makes the circumstances of specific cases where they are to be applied less important (Jacobsson 2000, p. 40). This meeting between a standard and the variety of situations in which it is meant to be used could possibly cause friction or conflict, or could just as easily occur without anybody paying much attention.

In our everyday life we come across standards of different kinds, standards that make plugs fit into sockets, sheets of paper into envelopes, and allow phones and computers to communicate. Usually we don't pay much attention to any of these standards, until something doesn't fit. Imagine you need to charge your Swedish mobile phone while visiting England and realise you have forgotten to bring the adapter, or that you have bought a very nice vintage lamp, but once at home realise that during the recent renovation of your flat they changed all the sockets according to the latest standard, and the lamp that was meant to bring such a nice vintage contrast to the modern apartment has a plug that doesn't fit. At the library we come across other kinds of standards, those of classification systems and controlled vocabularies. If you have some basic familiarity with the Dewey decimal classification system, you can locate books on the topic of your

interest in libraries in many different countries. The implementation of the Dewey system in Sweden did, however, require some modifications of categories including law, geography and the schooling system (Svensk biblioteksförening 2008). These examples illustrate that standards may need to be adapted to function in particular situations, that standards develop over time, that there may be different competing standards and that standards also change.

Medicine is an area where one finds plenty of standards and standardising. This includes standards for tools, terminologies, performance and procedures. Although the use of standards and processes of standardisation within the health and medical sector dates back to early 20th century, it has increased dramatically since the 1980s and the appearance of evidence-based medicine. This refers to guidelines for treatment and diagnosis that guide the work of medical professionals (Timmermans and Berg 2003). Just as in other areas, standardisation in health care and medicine has led to friction and controversy. One study exemplifying friction and tension is that of a Danish self-management program for patients living with chronic disease. Although the program was intended to make care more democratic, the boundaries set up by the standardised program were shown to lead to clashes between different ways of reasoning about how transformations are achieved (Nielson and Grøn 2012). Medical guidelines and self-care programs are not the only objects of standardisation in health and medicine, humans are standardised too. Steven Epstein (2009) discusses how critique of the use of a typological standard human in biomedical research in the 1980s and 1990s led to the emergence of new standards. The typological standard human was based on white male adults and the standards that emerged in the wake of the criticism are referred to by Epstein as niche standards, i.e. multiple standards based on demographic variables like sex, age, ethnicity and race (Epstein 2009). Studies like these of standards in health and medicine have shown that not only is there a discrepancy between the standards' ideals and peoples' lived realities, that bodies and lived realities do not perform in compliance with standards, standards also encourage certain actions and discourage others that don't comply with, for example a standardised program for disease self-management (Nielsen and Grøn 2012).

The CPR standard shares many characteristics with the standards referred to above. It connects things with activities. It coordinates actors within a larger specified process, and it also travels across space and time. Yet the CPR standard also differs from some of the examples above in that it describes a procedure. It has a specific content, something like a storyline outlining the course of events that could lead to successful resuscitation. It is intended to inform about something very specific. This storyline is what the participants in Lena's CPR class are supposed to learn and embody. The activities by which this is done include additional components to that of the standardised scripts, including practical embodied know-how, participants' bodies, everyday artefacts such as telephones and beliefs that it is possible to resuscitate. Notions about standards and understandings of practices are based on fundamentally different ideas and assumptions. Standards are highly controlled and often thought of as universal, while practices are not. Susan Leigh Star and Martha Lampland (2009, p. 15) describe the discrepancy between standards and their "realization in action" as "a crucial unit of analysis for the study of standardization and quantification".

Research on standardisation in Information Studies usually centres on knowledge organisation systems. This empirical area can be approached from many different perspectives and with very different aims ranging from how information retrieval and indexing can be enhanced through different forms of controlled metadata (e.g., Golub, Lykke and Tudhop 2014) to more humanistic investigations into the conceptual foundations of classification (Mai 2011), how norms, values and world views are inscribed into such systems and how these represent what they organise (e.g., Hansson 1999; Olsen 2001; Samuelsson 2008), or what makes knowledge organisation systems trustworthy (e.g., Feinberg 2012; Mai 2009). Studies of other kinds of standardised information than knowledge organisation systems and their infrastructures appear to be an unexplored or blind spot in Information Studies.

Aim

The CPR standard mobilises actors, moves across space and time, is embedded in practices, and is ultimately to become embodied by participants in bystander CPR[4] classes. The aim of this dissertation is to explore what kinds of configurations the standard enables as it is enacted in practices connected to lifesaving and CPR training for the lay public. That is, the focus is on which relationships and associations to other standards and practices are created and made possible in these enactments. The notion of information adopted in this study is one of information as situated, that is as formed and shaped by the social and material circumstances of its creation, use and appearance (e.g., Haider 2011; 2012; Lloyd 2012; Rivano Eckerdal 2012; Veinot 2007). This dissertation takes a standardised piece of information, basic life support guidelines, as a starting point and inquires into how these guidelines are transformed and embedded in practice. Particularly how the standard in bystander CPR classes are remoulded into participants' own particular knowledge. It explores what happens when standardised information is implicated in practices and thus investigates the shaping of procedures around standards. In doing so, this study contributes with theoretically and empirically grounded knowledge about how information is embedded across social practices. An understanding of how procedures and standards intersect and co-evolve may provide valuable insights into how information is shaped in practice, how knowledge is organised socially, and how standards produce the shaping of routines.

The aim is broken down into three research questions:

1. 1. In what ways is the bystander CPR standard configured and situated in practice?
2. 2. How is information enmeshed across enactments of resuscitation?
3. 3. How are participants shaped into lay rescuers through participat-

4 The terms bystander CPR and citizen CPR are sometimes used interchangeably. Bystander CPR is the most commonly used term is the term that will be used throughout the thesis.

ing in enactments of resuscitation? And what is the role of information in these shapings?

This study is based on material from observations, interviews and written documents from different actors involved in various ways with spreading resuscitation skills to the lay public. The aim of this study will be achieved by following ethnographically the configuration of resuscitation and zooming in on a few local enactments. The notion of configuration is here to be understood as a methodological tool used to pinpoint how the material world and that of cultural imaginings are joined together (Suchman 2014). Thinking in terms of configurations is a particularly useful tool when dealing with something thought to be universal or uniform, as the CPR standard is. The term configuration addresses the contingent character of enactments and the circumstance that other relations between the material and cultural are possible and consequently other configurations are also possible (Suchman 2014). Universal information objects and phenomena such as knowledge organisation systems and standards are a central research topic in Information Studies. However, they are rarely studied ethnographically.

This chapter will proceed as follows. The subsequent section will introduce the area of Information Studies to which this study contributes. This will be followed by a presentation of the methods used and material gathered.

Related research

Research on information practices, both theoretical and empirical, has developed and grown in the last 10-15 years. This research has been summarised as attending to the ways in which information is enmeshed across social practices, how information is created, used, sought and made sense of across activities (Cox 2012; 2013). There is some divergence regarding what to call this area of study. *Information practices*, or *the practice approach* are often used. Andrew Cox (2012; 2013) suggests *information in social practice* to be a more accurate way of denoting this area of research than *information practices* or a *practice approach*, since the practices studied are

usually not information centred. Rather information activities are seen as something that often occurs in activities, which do not have information centred aims (Cox 2012; 2013).

There are a number of publications (e.g., Cox 2012; 2013; Lloyd 2009b; Savolainen 2007; Talja and Nyce 2015) that deal with how this area of research differs from already established research branches of Information Studies. Based on such comparisons, the following section will look at how the differences between the practice approach and other adjacent Information Studies research fields are conceptualised. Because the terms *information practices*, *practice approach* and *information in social practice* are variously preferred in different studies, they will all appear in the subsequent review.

Information in practice

In reviews of the advantages of adopting a practice approach, the most common argument compares a practice approach to individual-centred perspectives. I will here summarize how these areas of research differ from each other, based on reviews done by other researchers.

Research on information practices, or the practice approach as it is also often referred to, is commonly described as a development or branch of information behaviour (e.g., Cox 2012; Savolainen 2007). Comparing the fields of information behaviour and information practices, Reijo Savolainen (2007) writes that the practice approach pays more attention to the contextual and situated character of information seeking and use, instead of seeing these as primarily cognitive processes, which information behaviour research has traditionally done. The approach of information practices has also been described as denoting "a more sociologically and contextually oriented line of research" (Talja 2005, p. 123). In a similar manner, it has been suggested that this approach implies a focus on domains instead of individuals (Lloyd 2009b, p. 251). Anna Hampson Lundh (2011, p. 12) provides a schematic and illuminating description of how the research areas of information behaviour and information practice differ from one another in that they approach and conceptualise information needs, seeking and use in different ways. In information behaviour research, informa-

tion needs are something individual and as such not necessarily articulated, whereas in information practice research information needs are socially constructed in interaction. Information seeking is understood in information behaviour research as a matter of seeking information in order to overcome a known and identified problem. The process of seeking is seen as an emotional or cognitive process, whereas information practice research views both seeking and use as an activity occurring within social practices. Information behaviour research on the other hand, understands the use of information as a process that occurs in the mind of individuals and information seeking addresses an identified need to be satisfied. (Lundh 2011)

The positioning of information needs, seeking and use at the centre of inquiry can, as Sanna Talja and James Nyce (2015) have pointed out, be understood as part of the legacy of the intellectual dominance of cognitivism in the discipline. In teasing out what can be gained by the adoption of a practice approach, Talja and Nyce (2015) discuss the difference that comes with the adoption of practices, tasks or situations respectively as units of analysis. They conclude that the adoption of a practice approach diverges from the cognitivist research tradition which has dominated Information Studies research. What is meant by context differs between studies that centre on practice, tasks and situations respectively. Individually experienced problems or demarcated purpose oriented tasks constitute the contexts in studies where situations or tasks are the analytical units. The adoption of practices as analytical units makes material arrangements and situated activities the context in which information activities occur. (Talja and Nyce 2015)

An analysis centring on practices provides scope for asking a different set of questions than those asked in studies carried out from a cognitivist perspective, though this does not imply disregarding issues of information needs, seeking and use. Although studies using a practice approach may also attend to issues of information needs, seeking and use, they often take a broader stance. They inquire into how information happens and how information related activities occur in routine activities, activites that are not necessarily intentional or planned. (e.g., Hartel 2010; Haider 2011; Veinot 2007). This area of research differs from individual centred studies

of information behaviour in the way research problems are framed and what questions are posed, as information is perceived as enmeshed across routines and activities encompassing embodied skills, material and social arrangements, from which information cannot be easily distinguished (e.g., Cox 2012; Haider 2011; Veinot 2007).

I will now turn my attention to empirical studies in which a practice approach has been applied to inquire how information is created and used, how it is made sense of, or simply happens in practices.

Empirical studies of information and practice

Practices denoted information practices are usually not primarily information-oriented, but interwoven into practices that do not necessarily have information-centred aims. This does not mean that these practices are less important objects of study in Information Studies, rather the opposite; it opens up for studying how information or information-related activities are enmeshed across social practices, Cox (2012) writes. In studies that operate with notions of information practice, or social practice, there is not one shared theoretical starting point although they all emphasise, to various degrees, the situated, social and material aspects of information activities (Cox 2012; Lloyd 2009b). Broadly speaking, these studies can be described as addressing how information figures across practices, which may encompass how information is created, used and made sense of in particular situations or by particular groups, communities or people in general. This area of research encompasses the study of a variety of empirical topics ranging from hobby-gourmet cooking (Hartel 2010) and the work practices of ambulance officers (Lloyd 2009a), to how members of a network of design researchers share information with each other (Pilerot 2014), how young women chose contraceptives (Rivano Eckerdal 2012), environmental information and sustainable living (Haider 2011; 2012; Nathan 2012), researchers' blogging practices (Kjellberg 2010), the information practices of nurses (Johannisson and Sundin 2007) and the implementation of a new information system at a human relations department (Rivera and Cox 2014).

In studies of information literacy, a practice approach has been used for

understanding how information literacy is shaped by the circumstances of particular situations, e.g. how young women evaluate different sources when choosing contraceptives (Rivano Eckerdal 2012), how the credibility of information is judged by secondary school students when doing schoolwork (Sundin and Francke 2009), or how sources other than textual ones are evaluated by ambulance officers during training and work practice (Lloyd 2007). By using this approach, these researchers have distanced themselves from an understanding of literacy as a set of generic skills (e.g., Lloyd 2007; 2009b; Rivano Eckerdal 2012). Studies of scholarly communication have also used theories of practice and have shown in a similar manner how activities of scientific communication are shaped by researchers' disciplinary background and technologies for communication and publication (e.g., Frohmann 2004; Kjellberg 2010; Pilerot 2014). Thus studies of both information literacy and scholarly communication, done from a practice perspective, have shown how material and social aspects of particular situations and settings have consequences for diverse kinds of information activities.

The empirically broader scope of research into information practices compared with that into information behaviour has also been highlighted by Pamela McKenzie (2002). She finds information practices a more suitable approach for understanding information seeking in everyday life, which appears more serendipitous than information behaviour models would have us believe. Similar points were advanced by Talja and Nyce (2015): that the context of practices must be understood as wider than that of tasks and situations. Empirical studies that adopt a practice perspective are usually based on interviews (Haider 2011; Lloyd 2009a; Rivano Eckerdal 2012; Rivera and Cox 2014), or a combination of interviews and observations (Hartel 2010; Pilerot 2014; Veinot 2007). Comparing the practice approach to the individual-centred perspectives that dominate information behaviour research, this shift also comes with some methodological challenges in that it leads to a proliferation of qualitative studies to a field previously dominated by a focus on quantitative research and measuring (Cox 2012, p. 184).

This study employs a practice perspective to inquire into how information is enmeshed across the enactments of resuscitation and how this in-

formation shapes those taking part in the enactments and vice versa. Empirical studies of how information is enmeshed across social practices exhibit certain recurring analytical commonalities which are useful for this study: how information occurs in routines, and the role ascribed to information practices in the shaping of identities.

Information, routines and identity

How information is enmeshed across practices and routines, how information is created and becomes meaningful is shown in Tiffany Veinot's (2007) study of the daily work routines of a Canadian power vault inspector, and in Jutta Haider's (2011) study of how information about sustainable living is converted in doings in everyday life practices. The vault inspector followed by Veinot engages in activities including the search for vaults poorly marked out on maps or hidden below vegetation and construction, which requires the inspector to read and interpret the environment. Inspecting vaults is an embodied work practice, protective clothing being a constant reminder of security regulations, and the sensation of heat informing the inspector of the state of the vault. Reports and forms are filled in to be passed on and used in other parts of the power company and as such these artefacts also connect different parts of the organisation. The work practice of the vault inspector is in many ways also an embodied information practice, Veinot (2007) concludes. Haider's (2011) study shows how mundane everyday practices such as showering, driving and recycling make information about sustainable ways of living comprehensible, while the environmental information provided by the municipality is technical, abstract and difficult to make sense of. Both Veinot's (2007) and Haider's (2011) studies demonstrate how information is interwoven into routines and activities one might not pay much attention to, and how these activities are part of shaping information as well as providing a framework for interpreting and making sense of information. The routines in both of these studies feature different things such as protective clothing, recycling bins, cars, the bodies of those engaging in the routines and plenty of practical knowledge about how certain things are done (e.g. recycling, how to locate hidden vaults and usefully interpret the sensory experience of heat).

Other studies have shown how information practices are linked to the formation of identities. In becoming firemen and ambulance officers, the trainees in Lloyd's (2007; 2009a) studies also become members of a community of professionals with certain shared values and ideas, which are imparted to newcomers by participation in work routines. Acts of sharing information have been shown to strengthen the sense of community among the members of the design scholar network studied by Ola Pilerot (2014). Johanna Rivano Eckerdal, in her study (2012) of how young women choose contraceptives, has shown how these women's acts of informing themselves are linked to identity and subjectivity, how they conceive of themselves as sexually active and responsible women.

These studies of information practices have shown how information can be studied as occurring in moments of doing, implicating, practical know-how, bodies and things and how these activities are also linked to values and the shaping of identities. It is common to ground studies of information practices empirically as being about a particular professional community or work practice (e.g., Lloyd 2007; 2009a; Pilerot 2014; Veinot 2007). In contrast, studies such as those by Haider (2011), Hartel (2010) and Rivano Eckerdal (2012), among others, are about information related to a particular topic and how information on the particular topics is intertwined and produced in practices of different kinds. This study resembles the latter two examples since the particular group in this study, the lay public, cannot be framed as constituting a community or professional group. Rather, what makes the lay public the lay public is the fact that they, or we, are non-experts. And the fact that this rather large, heterogeneous group of non-experts is widely dispersed and not tied to any particular location is fundamental to the activities of distributing CPR skills to the lay public. Thus this study differs from those reviewed here in that it revolves around a standardised piece of information that seeks to inform about something very particular. Standards or knowledge organisation do not appear hitherto to be an empirical area of study for the growing area of information in social practice, and potential tensions between standards and practices have consequently not been explored in the studies discussed. They will be a central concern in the present study, however.

Studies of resuscitation

To my knowledge, no Information Studies research that concerns resuscitation and CPR exists, although one can find plenty of studies of how health-related information is evaluated, used and sought by patients (e.g., Rivano Eckerdal 2012; Touminen 2004). Other studies have looked at the role technological and human mediators play when information is exchanged between health care providers and lay people (Wathen, Wyatt and Harris 2008) or the role of the public library in e-health discourse (Henwood et al., 2008). Several studies have addressed how different professional groups within the medical sector search for, use and evaluate information (e.g., Lloyd 2007; 2009a, Sundin 2003). Hanna Maurin Söderholm (2013) has focused particularly on how visualization tools are used in paramedics' work. By tracing a medical standard on its way into the lives and bodies of the lay public, the present study follows information that the general public think of as belonging to the domain of medicine, yet which is profoundly shaped by non-medical settings. In this way the health related information in this study is not as actively sought as in some of the studies mentioned above. Here it is rather the information seeking up people than people seeking information.

The history of resuscitation methods and CPR, of how it evolved and what the ground-breaking discoveries were and who made them, has been addressed in a number of articles published in medical journals (e.g., DeBard 1980; Chamberlain 2004; Cooper, Cooper and Cooper 2006; Fisher 2004). Though providing clear accounts of when different techniques were used and developed these publications shed little light on how these medical developments were implicated in wider societal development or in everyday life practices. Two other studies, by scholars in the field of science and technology studies, have focused on these aspects of CPR. Some of their insights will be presented below.

Sudden Death and the Myth of CPR by Stefan Timmermans (1999) is an ethnographic inquiry, based on fieldwork in American hospitals, into how resuscitation techniques are used to make sense out of sudden deaths, how decisions concerning life and death are made, and how CPR frames dying as a medical process. The aim of his study differs very much from the

questions posed in this dissertation, as does the material on which this study builds. Despite this, the study does make several valuable points that I would like to touch upon very briefly. Timmermans (1999) says lives are only rarely saved even when CPR resuscitation efforts are made. This is also something that medical professionals and the informants in his study acknowledge, but which is rarely acknowledged in bystander CPR classes. The way these classes are organised, their wide availability, and the way CPR is portrayed on TV shows produce false ideas about what can be achieved through the application of CPR (Timmermans 1999).

> People need more honest information about survival rates in CPR-training classes, where CPR is still taught as a miraculous technique to reverse any sudden death. With a disturbingly paternalistic attitude, the people who construct CPR-training kits seem to assume that the public would not want to resuscitate if the limitations of CPR were widely known. (Timmermans 1999, p. 192)

In spite of this, Timmermans acknowledges that this myth-making about the possibility of saving lives through CPR does have positive side effects. CPR can be understood as a ritual providing comfort to friends and relatives: even if their loved friend or family member didn't make it, at least everything medically possible was done. This renders CPR primarily a concern for relatives and friends.

Another study, whose focus is closer to that of the present study, was carried out by Vicky Singleton (2005). Her study concerns the implementation of a British national health policy enacted in the shape of a citizen CPR[5] training program. As in the present study, its empirical focus is on CPR training targeted at the lay public. Although the policy allows for re-negotiations of boundaries between expertise and public participation, Singleton (2005) shows how the practices constituting the citizen CPR training program conform to rather than transform established boundaries between expertise and public participation. Ultimately, how cardiac arrest

5 When refering to Singleton's study I will use the term citizen CPR training since this is the term she uses in her text. See also footnote 1.

events are handled remains a medical matter. Although the policy suggests it could be otherwise, the implementation of the policy in the citizen CPR training program still privileges biomedical interventions "…whereas trained lay people are mere assistants following the orders of medicine" (Singleton 2005, p. 785). However, the CPR training program does construe those who take part in the program as responsible individuals. By contrast, those who don't participate are regarded by community members committed to the program as taking less responsibility for the common good (Singleton 2005).

Both Timmermans' (1999) and Singleton's (2005) studies illustrate how medical ways of dealing with death are furthered though CPR training for the lay public. These studies take critical positions by showing how there are what can be described as other configurations of CPR than the one about saving lives. These studies show what CPR does in addition to – or possibly instead of – saving lives, namely that it medicalizes death and perpetuates the idea that the acquisition of CPR skills by a layperson is associated with being a responsible individual. However, these studies do not consider the role of information in the shaping of lay rescuers or how information emerges in the interplay between standards and practices, which is something that will be discussed in the present study.

Method and material

The material for the study has been compiled using ethnographic methods. Although ethnography is often associated with anthropology, it has recently gained increased attention and interest in Information Studies (e.g., Canvanagh 2013; Carlsson 2013; Goodman 2011; Hartel 2010; Lingel 2013; Lingel and boyd 2013; Lundh 2011; Nathan 2012; Wipple and Nyce 2007). Ethnographic methods are useful for capturing what people do. It is commonly described as a set of methods such as observations and interviews that enables the researcher to gain direct contact with people in their day-to-day life (O'Reilly 2009, p. 3). Ethnography does not refer to one particular way of doing research but can be done in many different ways including case studies, qualitative inquiries and fieldwork (Hamersley and Atkinson 2007, p. 1). Among other things ethnography is a useful method

for coming closer to what people actually do, which is central to analysis done from a practice theory perspective. The increased interest in ethnography among Information Studies scholars can thus be said to be in alignment with the concerns of information practice studies. Ethnography provides insights into the kind of contexts that need to be considered when studying practices. This is also the reason ethnography was the chosen method for this study.

The idea of following phenomena studied in different sites has been labelled multi-sited ethnography by anthropologist George Marcus (1998). This way of doing ethnography has evolved out of the recognition that the world we live in is increasingly globalised and that the phenomena studied and appearing in local settings are often transnational. Although rarely described in exactly these terms, this is a description that fits with standards or other representations of knowledge and information that aspire to be universal. Sites must not be physical locations; they can be sites for knowledge production, which are not necessarily delineated by geographical boundaries but by constellations of communities of experts, such as those developing the CPR guidelines or those teaching it to the lay public.

I started gathering empirical material by doing observations in bystander CPR courses. Observations were later supplemented by documentation about CPR and interviews with participants. The material has here been grouped into observations, documents, and interviews and transcriptions, and these three groups will be introduced separately. Two additional sections follow, one about analysis and one about ethical considerations.

Observations and note taking

Observations are often preferable when you want to gain insights into what people actually do, which may differ from what people say they do (Pripp and Öhlander 2011, p. 114). To actually observe the activities in CPR classes, the moments in which the standardised guidelines are enacted in training situations appeared to be an appropriate way of initiating the compilation of empirical material.

I began carrying out fieldwork in November 2011 and recorded my last observations in May 2013. During that time I attended a total of 23 classes

during which I watched approximately 150 participants taking part in CPR training. The observations were done in two different locations in southern Sweden offering CPR courses for the lay public; an occupational health centre and at a volunteer organisation. These organisations will be presented in further detail in Chapter 5. Of the 23 courses I attended, 17 were organised by the occupational health centre and the other six by the volunteer organisation. The number of observations was not determined beforehand, but I continued to attend classes given by these organisations until I felt that the observations did not provide many new insights. The frequency of sessions differed on the two organisations' courses. This is the reason why the number of observations done at the occupational health centre outnumber those done at the volunteer organisation. On the first occasion at each location I attended as a participant myself.

The classes varied in length (between two and eight hours) and had somewhat different purposes. Most classes focused exclusively on teaching participants the measures of CPR and choking relief. Others were called first aid classes and included additional skills on top of those being taught in the CPR classes. This included techniques such as how to put on pressure bandages, how to help people in a state of shock, how to recognise low blood sugar levels in diabetics or how to maintain the airways of unconscious persons free. A few courses were repetition courses for people that had taken a CPR course on a previous occasion and only wished to refresh their skills. These were drop-in courses and participants could come at their time of choice and practice for 15-20 minutes on mannequins, under the supervision of an instructor. They could also watch an instructive film and familiarise themselves with defibrillators. Since I was dependent on the schedule of the course organisers my fieldwork extended over a long time.

In CPR classes it is always the same procedures that are being explained over and over again, although the ways in which this is done vary. I noticed that the way I looked at what was going on in classes changed during the period of observations. As the routines of the class became familiar to me, occasions when something deviated from the routine caught my attention. Deviations became visible because of my familiarisation with the site (see Wolfinger 2002), with what an ordinary CPR class was usually like and

what participants and instructors usually did and talked about.

Keeping up with the conversations and activities allowed me to write down only fragments of what was being said and done, and not to depict events in detail. Wolfinger (2002) suggests that the ethnographer writes down keywords, such as the beginning and end of a conversation or event. Such brief notes help the researcher to remember, and on a later occasion expand the notes. I did this as soon as I got home after my observations. I enhanced descriptions of events and the localities, and I also included reflections on the events I had observed and some thoughts about the method itself, as well as what to think about at forthcoming observations. One methodological struggle I identified was my inability to capture everything that was going on in the classes by using only a pen, a notebook and my own memory. People often talked at the same time, noise from several exercises being done simultaneously in the same room made it difficult to follow events even if I singled out one in particular to focus on. This led me to record classes, mostly by filming with the camera in my phone or with a portable media player (ipod). On some occasions I only recorded sound. The last six observations were recorded in essential parts. The choice of simple recording technologies was based on my ambition to interfere as little as possible with what was going on in the classes. I did not want to make participants feel inhibited by my being there filming and recording. My sitting in the room with a smartphone in my hand did not appear to attract much attention. The technology of my choice was also one I was very familiar with and which therefore did not require too much attention from myself.

The filmed observations turned out to be useful in that they allowed me to go back and view classes I had attended again. The films also made it obvious that verbal communication – what is said in words and transcribed as such – provide but a very scant account of what happens in the classes. Gestures and body movements, pointing and showing procedures constitute a large part of explaining. This became all the more apparent as I started transcribing conversations from the recorded observations, which I will shortly return to.

I started gathering material for the study in a very limited setting which, however, turned out to be linked to further contexts and practices beyond

the CPR class. These grew in numbers, not so much through the observations themselves, but as I immersed myself in various kinds of documentation about CPR during the periods between observations.

Documents

My initial search for documents was limited to documentation provided by Swedish organisations I had learned about through attending CPR classes. This search evolved into what can be described as a chain search in that documents and organisations referred or mentioned additional organisations and documents. As I learned more about the history of CPR and the organisations involved, I focused on documents from a few central organisations. The ones that will appear most often in the following chapter are the *Swedish Lifesaving Society*, the S*wedish Resuscitation Council,* and the *European Resuscitation Council* (ERC). Yearbooks from the *Swedish Lifesaving Society* from the first half of the 20th century gave me an understanding of configurations of resuscitation predating the standardised guidelines and how this organisation prepared the ground for the lay public to engage in resuscitative efforts during the first half of the 20th century. This source is only used in the second chapter and I will discuss the material in further detail there. The *Swedish Resuscitation Council* is the organisation in Sweden responsible for translating and implementing updated guidelines that in turn are derived from the *European Resuscitation Council* (ERC). These are two contemporary and central organisations for developing resuscitation guidelines, whose recommendations other organisations, such as the ones where I did my observations, have to adhere to.

By reading reports, yearbooks, texts on websites, mission statements and other information produced by national and international organisations that take part in disseminating and developing CPR guidelines I could follow other configurations of resuscitation and CPR taking shape, aside from that appearing in the bystander CPR courses that I observed. The documents had different purposes, were produced by different stakeholders and intended for different audiences (see Hammersly and Atkinson 2007, p. 132-133). Yet all provide insights into configurations of resuscitation and how the lay public is or was involved in these. Although the

observations were done in local settings, the documents I read between observations provided an image of CPR as a multi-sited phenomenon. The documents can be said to have provided insights into how local enactments of resuscitation are connected to other practices and communities of expertise in other locations and at other times in history. The more I looked into all this, the more I came to realise that the various forms of documentation, and the practices of documentation and producing documents, also played an important role in the configuration and maintenance of CPR and the practices by which the standard is meant to be both improved and spread. Furthermore, the complexity of the organisation behind the dissemination project stood out as rather remarkable.

These different kinds of documents are part of the empirical material supplementing the observations. Some of the documents provided me with background knowledge about resuscitation techniques and their developments. Other documents and forms of documentation caught my attention for being active agents in configuring resuscitation. The documents are thus to be seen as both contributing to broadening my understanding and knowledge about CPR, and as taking part in shaping the practices in which the CPR standard is enacted.

Documentation about, or from, international resuscitation organisations gave me insights into how medical knowledge about resuscitation is developed and distributed. The material compiled through observing bystander CPR classes provided me with an understanding of how the guidelines developed by resuscitation organisations are transformed and negotiated when disseminated to the lay public. These two sorts of material offered only limited insights into what motivated people to attend CPR classes. I therefore decided to do additional interviews with participants since my field notes and filmed observations only provided me with limited insight into their reasons for attending the classes.

Interviews and transcriptions

I had talked to participants as well as with instructors while I was doing the observations, but these conversations were brief chats and not recorded. During the spring of 2013 I did seven short interviews (15-30 minutes)

with participants a few days after they had attended a course. These were semi-structured (Kvale 1997) and guided by two themes: motivation for attending the course and how they perceived their accomplishment. Interviewees were recruited on courses. I introduced myself before the class began and asked for volunteers and for the participants to consider whether they would like to participate in an interview. I then returned at the end of the class and agreed on times and dates for interviewing those that volunteered to participate. The interviews were carried out either at their workplace or at my office. I also recorded a discussion with two participants during a lunch break on one of the full-day courses. This discussion addressed the same themes and followed the same guide as I had used for the interviews.

All interviews were transcribed, but the conversations from the filmed observations could not be transcribed in their totality due to the fact that during the practical exercises caught on film, several people talked at the same time. Singling out who was talking and what exactly was being said was not always possible. Parts where I could follow conversations were transcribed while other parts resulted in notes that described what was going on, what was being done and what was talked about in very general terms. That is, I wrote down what kind of activities were being done but did not account for gestures or movements in any greater detail since the analysis did not focus on these. On many occasions I will report conversations that I have recorded. Instead of providing longer quotes that may be difficult to follow I have chosen to present most of these conversation to the reader as shorter vignettes – summaries of events, things said and done. The transcriptions of the conversations have nevertheless been useful for writing the vignettes. On other occasions I will present quotes from these recordings.

It has been pointed out that written words cannot reproduce sensory experiences, which puts these at risk of being excluded from ethnographic analysis (O'Dell and Willim 2013). Others have highlighted how power relations are reflected in transcriptions. The transcriber makes the decisions about what is to be included and what is to be excluded (Bucholtz 2000). My thesis is written in English although all my interviews were done in Swedish and the observations took place in settings where only Swedish

was spoken (though some informants in this study were not native Swedish speakers). Quotes from interviews and observations have thus been processed between the time they were uttered and their reproduction here. The acts of transcribing and translating require some reflection and a few clarifications.

Bucholtz (2000) differentiates between naturalized transcriptions, which are transcriptions transformed into written language and denaturalized transcriptions, which maintain the form of spoken language. With the former there is always a risk of making the process of transcribing invisible as spoken language is transformed into written language, as linguistic forms do not receive any attention. With denaturalized transcriptions, on the other hand, there is a risk that what is being said appears alien to the reader, as we are not accustomed to reading spoken language. This study does not seek to investigate any linguistic questions. Quotes presented in the text have therefore been naturalized, that is, transformed into written language. Changes include occasional grammatical changes by which spoken language is adapted to conventions of written language. In cases where parts of sentences have been omitted or when what is said results in unfinished sentences this has been marked with … On other occasions, I have added words or exchanged "this" or "that" with what it refers to in order to make the quote intelligible. Such words have been placed within brackets []. The transformation of my first direct transcriptions into naturalized transcriptions, has also facilitated the process of translating excerpts from observations and interviews from Swedish into English.

In the chapters that follow I will on several occasions present longer quotes in separate sections. These are all transcriptions from the recorded observations or interviews. Shorter quotes, included in sentences, may be either from the recorded observations or from the observations when I did not record. On these occasions, utterances were written down in my notebook immediately after being made, which vouches for the transcription's accuracy.

Analysis

The analysis has been done continuously, beginning when I started gathering material and going on throughout the process of compiling the material and writing it up. This process can be described as having different phases. Wolcott (1994, pp. 9-51) summarizes the processing of qualitative data as constituted by three stages; description, analysis and interpretation. Description is a matter of presenting the empirical material using the words of the informants or excerpts from field notes, which describe what is going on. Analysis refers to acts of systematically identifying themes or relationships. This commonly follows description. Interpretation may follow directly on description, or after analysis, and is a matter of understanding meanings. These stages can be emphasised to different degrees and do not follow upon each other in linear manner, interpretation may for example follow directly upon description (Wolcott 1994). Opportunities for me to carry out observations were spread out over a long period with plenty of time in between. This meant I had time to read my field notes between observations, to analyse my initial descriptions, that is, to organise the material thematically. My initial analysis focused on identifying reoccurring empirical themes. In this initial analytical work I sought to gain a general understanding of what the classes were all about through observing particular instances that I had identified as relevant at earlier occasions. The analytical phase that followed was guided by theoretical understanding from practice theory, which will be further outlined in the next chapter. Put differently, the initial inductive work gradually turned into an analytical procedure that can be described as abduction, that is, I used theoretical themes to organise the material (Alvesson and Sköldberg 2009, p. 4). Both theory and my material were continuously reinterpreted in light of what was being brought to the fore in the latter analytical phase. As I scrutinized the material based on analytical categories derived from the theory, I simultaneously also adapted and developed conceptualisations that guided my analysis. Contrary to the initial phase of analysis, which was empirical, the later was theoretical.

Ethical considerations

The present study was carried out in accordance with the ethical research principles for humanities and social sciences stipulated by the *Swedish Research Council* (Vetenskapsrådet n. d.). The focus of the study did not entail any closer acquaintance with the participants or instructors I observed outside of the classes. What became known to me about course participants and instructors through observations and interviews was not sensitive, nor was it ever my intention to gather any such information. A few ethical considerations are nevertheless appropriate and necessary.

I had contacted the organisations and the instructors beforehand and acquired their permission to attend the courses. Gaining access to the courses at the volunteer organisation and the occupational health service was rather unproblematic. The instructors I met often expressed excitement about my interest in their work and I was sent information about dates and times for the courses they were running. At the beginning of each class I introduced myself and explained my reasons for being there. I also gave the participants an opportunity to dispute my presence and ask me questions. During my observations I did receive quite a few questions from participants, mostly interested and encouraging ones. On no occasion did anyone dispute my presence.

Instructors, course participants and interviewees were promised confidentiality. For this reason I do not name participants in quotes and descriptions in the text. Instructors, on the other hand, have been given aliases. In the chapters that follow, Karin, Lena, Paula and Elisabeth will teach CPR, talk and discuss with approximately 150 course participants at the two different settings where the observations were done. In quotes from observations where several participants take part in the discussion these are numbered sequentially as they enter into the discussion in the quote. Instructors are named by the alias I have given them. In order to enhance the confidentiality of the instructors they have all been given female names and will be referred to as women, though not all of them were women. Interviewees are referred to as IP (interview person) followed by a number indicating the chronological order of the interviews. Observations are numbered chronologically and descriptions of events taken from

my field notes or quotes from recorded observations are referred to as OB (observation) followed by a number.

In order to reduce the risk of identification I have also decided to exclude the names of the organisations and the locations where the observations were carried out. I do however believe it to be important, for understanding the way CPR is framed in this study, to describe some relevant aspects of the organisation in order to grasp their overall area of work and their reasons for taking part in disseminating CPR skills to the lay public. This is done in Chapters 5 and 6 which is where the material gathered during CPR classes will be presented and analysed.

Outline of dissertation

This introductory chapter has outlined the aim of the present dissertation as an inquiry into how the CPR standard is embedded in practices in which the lay public take part, and in what ways information is enmeshed in these practices. This was followed by a brief presentation of how the connection between information and practices has been conceived of in Information Studies and related studies of resuscitation and CPR. I then accounted for methodological considerations, and the material on which the study is built was introduced. The second chapter will present the theoretical framework and central concepts used in the analysis.

Subsequent chapters will discuss different configurations of resuscitation and the enactment of the bystander CPR guidelines in classes attended by the lay public. This will be done to explore how the standard is situated in practices, how information is enmeshed across the activites of imparting resuscitation skills to the lay public and how participation in bystander CPR classes shape lay rescuers. Susan Leigh Star and Martha Lampland (2009) have pointed out that the work of creating standards is rarely made visible, despite standardisation being a ubiquitous phenomenon in modern society. This inquiry will consequently begin by looking into how resuscitation is presented in the yearbooks of the *Swedish Lifesaving Society*, before CPR became the standard method of resuscitation. How standards appear, what predates them, and how they become common practice is rarely explored. Rather, standards are taken for granted

(Star and Lampland 2009). Chapter 4 shows how the bystander CPR guidelines move between international and national organisations and local bystander CPR courses. In Chapter 4 I also look into how standards are connected and resuscitation configured in one particular project, the *Mobile Lifesaver Project*. Chapters 3 and 4 are primarily based on textual sources while the following two chapters are based on material from observations and interviews. Chapter 5 studies the procedures in CPR classes – the activities by which the actual CPR guidelines are taught to the lay public, and how informing occurs in different ways during these activities. This in turn brings up some moral aspects of CPR and acquiring CPR skills, which are further explored in Chapter 6. Thus the research questions do not correspond to the themes of the individual empirically based chapters. Each chapter can be said to provide pieces that will be fitted together in the concluding chapter, where the research questions will be answered conclusively. The empirically based chapters do, however, seek to discuss the three research questions to various degrees. The chapters and research questions correspond to each other in the following way: the first and second research questions, which concern how the bystander CPR standard is situated in practice and how information is enmeshed across enactments of resuscitation will be discussed primarily in Chapters 4 and 5. The foundation for the discussion of the third research question – how participants are shaped as lay rescuers by participating in enactments of resuscitation and what role information plays in this process – will be laid in Chapter 3, to be picked up and pursued anew in the sixth chapter. Chapter 3 also serves to sketch a background useful for understanding how the lay public in Sweden have previously been implicated in resuscitation endeavours and why.

2. Studying information, practices, standards and control

The analytical framework that will guide the inquiry consists primarily of four theoretical components, which will be presented in four sections in this chapter. I will begin by introducing central ideas in practice theory, then move on to talk about the notion of practice itself, and finally discuss the concepts of elements and their role for the persistence and dynamics of practices. In this I will draw primarily on the writing of Elisabeth Shove, Mika Pantzar and Matt Watson (2012). I will then turn to the second theoretical component, that is, I will introduce a terminology of information modalities developed by Annemaree Lloyd (2007; 2009a) that I suggest can be used to identify different ways in which information features in social practices. The third theoretical component concerns standards and standardisation. This section will address how standards can be studied and how different sorts of standards can be conceptualised. Here I will also briefly touch on how the interest in standards and standardising is associated with modernity. The fourth and final theoretical component to be presented in this chapter is the dual notion of bio-power and governmentality, concepts introduced by Foucault (1978; 1988; 1991), which are useful for addressing how populations are monitored and controlled. These four theoretical components are seen as complementing each other and will be used to address different aspects of how bystander CPR is configured and situated in practices, how information is enmeshed across these enactments and how lay rescuers are shaped by participating in enactments of resuscitation.

Central ideas and concepts in practice theory

As the studies of information practices introduced in the previous chapter illustrated, practice theory offers a possibility of studying information and informing as something that is formed neither by individual minds nor derived from governing structures, but as something that takes shape and is made sense of in practices. Theordore Schatzki (2001) ascribes contemporary interest in theories of practice to the potential offered by this area of theorising for overcoming the split between individual and structural levels of analysis. In Information Studies, practice theory has primarily been framed as constituting an alternative to individual- centred approaches, which I discussed in the introductory chapter, but in other disciplines this line of theorising has instead been favoured as an alternative to structural perspectives (Schatzki 2001).

Practices

The fact that practice theories have attracted attention from scholars of various disciplines has led to a plethora of conceptualisations of practice theory and of what practices are. One shared feature of the different theories is, according to Schatzki, the understanding of practices as "arrays of activities" (Schatzki 2001, p. 2), which means practices are larger than activities. Practice theory can also be framed as one of several different cultural lines of theorising which all share the common enterprise of seeking to understand social life as constituted by "shared or collective symbolic structures of knowledge" (Reckwitz 2002 p. 246). Practices are, in Andreas Reckwitz's (ibid., p. 250) words: "…routinized way[s] in which bodies are moved, objects are handled, subjects are treated, things are described and the world is understood". In practice theory, practices are where social life is configured and therefore also the central unit of analysis. This line of theorising differs from other cultural theories in which the analysis centres on either text, social interaction or individual minds (Reckwitz 2002).

Shove, Pantzar and Watson (2012) have pointed out that focusing too much on routines makes it difficult to account for the dynamics of prac-

tices, how practices change, how they emerge and how they sometimes disappear. Their version of practice theory consequently centres on the dynamics of practices. Although these scholars are concerned primarily with everyday life practices such as driving, Nordic walking (Shove, Pantzar and Watson 2012), floorball and digital photography (Shove and Pantzar 2007), they also point out how an understanding of everyday life practices can be important for enabling transformations towards more sustainable ways of living (Shove, Pantzar and Watson 2012). Haider's (2011) study, mentioned earlier, attends particularly to information about sustainable ways of living, and demonstrates how such information is enmeshed across mundane practices like biking to the shop instead of driving, or showering less. Thus a focus on micro-level practices does not imply that these are understood as disconnected from larger societal issues – on the contrary, practices are where they are shaped.

Saving lives is arguably not as much part of everyday life as, say, cooking or driving – unless you work in an emergency ward or cardiology clinic. Yet lifesaving is not a practice that involves only medical professionals. As the widespread existence of the kind of classes I attended while gathering material for this study testifies to, lifesaving is also a practice that is part of everyday life. It is primarily the version of practice theory presented by Shove, Pantzar and Watson (2012) which has inspired the analysis in the subsequent chapter. These authors have identified a number of interesting aspects of practices and how they can be studied. Here I will primarily focus on how the constituent parts of practices, or their elements, can be conceptualised. How resuscitation is connected to things that are familiar to the part of the population referred to as the lay public, how it can be understood through the identification of elements, and how these are joined together in enactments of resuscitation.

Elements

The components constituting practices are often referred to as elements. Reckwitz (2002, p. 249) has described these as "…forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotions and

motivational knowledge". Shove, Pantzar and Watson (2012) group what practices are made out of into three different kinds of elements. These are elements of materiality, competence and meaning. Elements of materiality encompass various sorts of objects, tools, infrastructure, hardware and also bodies. Competences include different ways of knowing such as practical know-how and how to evaluate the use of some particular knowledge. Elements of meaning refer to components such as motivational knowledge, emotions and beliefs associated with practices. For practices to persist, links between these three kinds of elements must be made continuously. Without links the practice in question will disappear, and if one or several elements of a practice change, that particular practice will also change (ibid., pp. 23-25). In Shove, Pantzar and Watson's (2012) version of practice theory, the elements and how these are linked to each other are important for understanding how practices emerge, persist, change and sometimes also disappear.

Practices do not travel between locations as ready-made units, while elements on the other hand do travel, and when links are made between them, practices are enacted. The three different kinds of elements that together make up a practice travel in different ways. Material elements are the only ones that travel in the physical sense, in that they can be physically transported from one location to another. The availability of material elements and the possibilities for transportation are thus important aspects of their ability to circulate (Shove, Pantzar and Watson 2012, pp. 45-47). Elements of meaning circulate through processes of "de-and re-classification" (ibid., p. 53). Through such processes of association, meaning becomes attached to certain activities. The meanings associated with one practice may change over time, and existing circulating meanings like e.g. "healthy" may become associated with an emerging practice or practices previously not understood as such, or be replaced by some other meaning at a later stage. The circulation of elements of meaning often occurs through mass media and communication infrastructures, which have the ability to circulate images widely. If a certain mening become associated with a particular practice is however an entirly local process that does not necessarily follow upon some meaning being circulated in media.

(ibid., p. 53-56).

Competences circulate in different ways from both elements of meaning and those of materiality. Certain practical know-how may be acquired without being noticed while other skills require conscious efforts and repeated training (Shove, Pantzar and Watson 2012, p, 48). The specific competences of resuscitation must be said to be of the latter kind, i.e. acquired through efforts and training. Nonetheless, the practical know-how of resuscitation does travel extensively: it is meant to travel and to be learned by as many people as possible. Abstraction and reversal are useful concepts for understanding how competence elements circulate. In order to travel, competences need to be abstracted, and when reaching the new destination the abstractions are reversed. The transfer of competences can thus not be said to be a simple matter of sending and receiving (ibid.). Similar understandings of information are recurrent in research on information practices (e.g., Haider 2011; Rivano Eckerdal 2012; Veinot 2007) and is also a starting point for this study. The circumstance that the practical know-how of resuscitation is standardised makes these processes of abstraction and reversal very interesting for further study, in particular since competence elements are usually modified as they travel (Shove, Pantzar and Watson 2012, pp. 52-52). However, not all competences need to be abstracted in order to travel. Competences can be transferred from one practice to another. The authors exemplify with competences such as being able to speak in public or control a ball. This know-how can be transferred between practices without first being abstracted (ibid., p. 51). This is probably not the case for the competences involved in carrying out the procedures of CPR, although there may very well be other relevant competences, e.g. about how to handle emergencies, which may be transferred from other practice and useful in enactments of resuscitation without passing through processes of abstraction and reversal. Processes of abstraction and reversal are in this study, central for understanding how the practical know-how about how to resuscitate travels, particularly since the procedures of CPR are standardised and can thus be understood as already constituting an abstraction.

Elements are not exclusive to particular practices, but can be shared by

different practices and consequently also link different practices to each other (Shove, Pantzar and Watson 2012, pp. 35-37). While certain actors may be in control of and circulate particular elements, they do not control the ways in which elements are combined, which make practices dynamic and plastic (ibid. p. 39). The persistence of a particular practice is dependent primarily on two things: the recurrent links between travelling and circulating elements, and the availability of practitioners willing to engage in and perform the practice (ibid., p. 63). While the recurrent integration of elements and the successful recruitment of practitioners are prerequisites for the persistence of a practice, they also make changes possible.

Practice theory as presented by Shove, Pantzar and Watson (2012) provides a number of possible angles for studying practice. Based on their model, the following aspects of practices will be examined. First, how links between elements are made that enable the enactment of resuscitation, how these occasionally shift, how links to new elements are made and what configurations of resuscitation this brings about. Second, how resuscitation is connected to other practices and what kinds of changes are enabled by links between different practices. Practice theory will in this study be used as a perspective for seeing how the CPR standard is enacted during CPR training, for exploring how resuscitation is configured in action, that is in moments of doing, and for identifying how elements are linked together in different configurations of resuscitation. When links between elements are established, resuscitation becomes something more, or something else, than the instrumental measures of controls, mouth-to-mouth ventilation and chest compressions. Through the identification of how elements are combined, different configurations of resuscitation can be identified.

Information and practices

Knowledge is a central component of practices, particularly practical knowledge about how things are done (Cox 2012; Reckwitz 2002; Shove, Pantzar and Watson 2012). CPR classes are very much about acquiring a practical know-how associated with a very particular purpose, that is, saving lives. Cox (2012, p. 185) says, "information activities are woven through

all social practices" despite, as he has also pointed out, the term information not figuring in the vocabulary of practice theories.

Both knowledge and information appear prominently and in many forms in efforts and activities of distributing resuscitation skills to the lay public. Some information-oriented activities, such as producing and distributing different kinds of instructive material and organising and giving classes, are easily spotted and identified. Others ways of informing or becoming informed can be less explicitly information-related. How resuscitation is woven into mundane activities or how mundane activities are woven into enactments of resuscitation can also serve to inform. Such aspects are not captured by understanding information as something that can be intentionally moved around, transmitted between a senders and receivers without interference (as the much criticised 'conduit metaphor' suggests [e.g., Day 2000]). Seeing information as interwoven across practices (e.g., Cox 2012; 2013), or as something that happens in practices (Haider 2011), allows us to understand a wide variety of activities and things as informational.

Conceptualising information

In this study information is seen as necessarily situated in practices and their environment. This is in tune with how information is understood in studies that apply a practice approach to information (e.g., Cox 2012; 2013; Haider 2011; Rivano Eckerdal 2012; Veinot 2007). Information has been conceptualised in many different ways within Information Studies research. Michael Buckland's (1991; 2012) division of information-as-thing, information-as-knowledge, and information-as-process refers to three different ways of theoretically conceptualising information and how information and informing can be studied. Information-as-thing refers to objects such as books, images, data, documents or any other object that may be informing as people engage with them. This understanding of information leads to questions about what people do with information-as-things but also raises questions about what counts as objects. Information-as-knowledge refers to the result of being informed and information-as-process refers to learning – to how knowledge is imparted. Though

these conceptualisations are illuminating for conceptualising and tease out different ways in which information can be studied, they do not appear to be equally useful tools in empirical enquiries. I have found Lloyd's (2007; 2009a) conceptualisations of information as different modalities very useful for being able to talk about the ways in which information is enmeshed across the practices by which resuscitation skills are distributed and the ways in which the CPR standard is enacted in practices of lifesaving and CPR training.

In Lloyd's (2007; 2009a) studies of the training of ambulance officers and firemen, already mentioned briefly, she differentiates between different forms and shapes of information by referring to three different kinds of information modalities: epistemic, social and corporeal. At different stages in their training and work practice the informants encounter information, which Lloyd (2007; 2009a) conceptualises as being of these different modalities. At the initial stages of training, epistemic modalities of information are important. This modality is empirically exemplified mainly by textbooks, training manuals and other written sources (Lloyd 2009a, p. 401), but also characterised by aspiring to be universal and general (Lloyd 2007). It should nevertheless be noted that this cannot be assumed to be valid for all texts. Many texts do not aspire to be universal, e.g. fictive, literary or biographical accounts. Similarly, informative accounts that seek to transmit something general can be mediated in other ways than as text, e.g. verbally. I have therefore modified the terminology and will in the chapters that follow talk use instrumental modality of information when referring to information that has universal pretentions. As the trainees in Lloyd's (2007; 2009a) study enter into work practice, social and corporeal modalities of information become increasingly important for the informants' continued professional development, and the training centre is now seen as an environment unable to simulate the uncertainties of work practice.

The social and corporeal modalities of information appear conceptually as counterparts to the epistemic modality of information in that these do not make any pretensions on representing the truth or being universal. The novices in Lloyd's (2007; 2009a) studies encounter the social modality both at the training centre and in their work practice, though they become

all the more central in the latter setting. At the training centre, social modalities appear in the shape of critiques of performance, stories from work practice told by experienced practitioners and the deconstructions of events – what went wrong and what went right on different occasions (Lloyd 2009a, p. 402). These kinds of stories distribute information about work practice among the group of colleagues (ibid.). Storytelling conveys tacit and situational information; it allocates the abstract in particular situations and connects novices to the values and culture of the professional community. As such, storytelling leads to a shared and coherent understanding of work practice: what being an ambulance officer is about (ibid., p. 407). Telling stories becomes one means of distributing information within the professional community while simultaneously providing, or offering, access to experiences had by others.

In Lloyd's (2009a) conceptualisation, the corporeal modality of information denotes information that appears, or occurs, in novices' and experienced practitioners' bodily and sensory response to physical aspects of the work environment. During the phase of preparation for work practice at the training centre, this modality is accessed and used in practical exercises and observations. Such activities are meant to lead to the embodiment of knowledge which at a later stage, in the ambulance officers' work practice, is expected to be automatized. In Lloyd's (2009a) study of ambulance officers, the corporeal modality of information is only accessible to a limited degree at the training centre. What different types of breathing actually sound like and what patients in different states look like cannot be realistically experienced at the training centre. Work practice provides access to and use of corporeal information that training does not. Lloyd (ibid., p. 408) writes that the ambulance officers develop "gut feelings" that enable them to anchor newly encountered information to what they already know. This modality comprises information mediated by the senses: sight, hearing, smell and tactility provide information that can be used to assess situations. Lloyd (2009a) occasionally uses the term "corporeal modality" and at other times "physical modality" in referring to the same modality. In the empirical examples brought forward by Lloyd (2009a) to illustrate how this modality is used and accessed, informants do not speak

only about bodies and senses, they also talk about other physical and material aspects of their work environment. What patients' homes look and smell like, an observation of a colleague intubating a child using a spoon when regular aids and tools failed, and how the people they meet receive them, with calm indicating that a situation is less acute than when someone is standing on the street waving as they arrive. Corporeal modalities of information are thus enabled and accessed only at the moment of bodily interaction with the surrounding physical environment.

Lloyd's modalities of information – what they include and how they can be identified – are very closely connected to her empirical material. The empirical material in this study shares some characteristics with Lloyd's. Our studies both explore what can be described to concern practices related to health and medicine, but the ways in which the information feature is not necessarily legitimized in medical-scientific ways in the actual situations explored. Lloyd maps out sources of information in order to explore how ambulance officers become information literate in their work practice. I find the idea of conceptualising information as different modalities useful, in that it provides a vocabulary for talking about how information features in the lifesaving practice of resuscitation, without connecting it to either particular media or specific processes/activities. The information modalities capture aspects of information and informing without marking out all too rigid boundaries for what these conceptualisations may encompass. The conceptualisations of information modalities will be used in this study to zoom in on and identify instances in which information features or informing occurs, for conceptualising the happening and occurrence of information in the enactments of resuscitation. Put differently, to conceptualise and be able to talk about the ways in which information activities are woven through social practice (e.g., Cox 2012), the modalities provide a terminology for denoting different layers of information. They pinpoint different aspects of information and acts of informing.

Central to the aim presented in the introductory chapter is the tension between information with universal pretensions and practices which are situated. The practice theoretical framework outlined in this chapter attended particularly to the dynamics of practices, how practices are configured through the recurrent enactments and linking of elements. This view

of practices stands in contrast to common understandings of standards.

The guidelines for resuscitation used today are standardised. As the examples in the introductory chapter illustrated, standards are often thought of as universal, to be applied in multiple situations. However, their implementation is not always as straightforward as it may seem (Bowker and Star 1999), and as some of the examples in the introduction illustrated. The discrepancy between the supposed universality of standards and their plasticity when applied in practice makes standards and standardisation an interesting area of study. The third component of the theoretical framework used in this study draws on previous research of standards and standardisation, and of how standards can be conceptualised and studied.

Standards

Information Studies research on standards and standardisation commonly concerns knowledge organisation systems or metadata standards. Several studies have approached classification systems and the practices of classification and organising knowledge as constituting problems of representation. Standardised ways of organising knowledge rarely manage to represent diversity, instead they tend to favour dominant worldviews that marginalise local knowledge and non-mainstream topics (Hansson 1999; Kjellman 2009; Olsen 2001; Samuelsson 2008). Others have inquired into what makes knowledge organisation systems credible (Feinberg 2012; Mai 2009). Geoffrey Bowker and Susan Leigh Star (1999; 2000), whose work is influential in Information Studies, approach empirically very different sorts of classifications and standards. They understand classification systems as resulting from cultural values, information technologies, and people coming together. By studying classifications such as the *International Classification of Disease* they illustrate very clearly and forcefully how classification systems have consequences for peoples' lives in that categories enable and disable activities. In the work of Bowker and Star (1999), classifications and standards do more than represent; they also take part in constructing and configuring the world. They understand knowledge organisation systems and standards as creating what they describe by setting out boundaries for activities and work, i.e. rules for what can be done.

Standards have attracted attention from scholars in other disciplines as well, such as sociology (Busch 2011; Lampland and Star 2009; Timmermans and Berg 2003; Timmermans and Epstein 2012), political science (Krislov 1997) and management (Brunsson and Jacobsson 2000). Consequently there are studies of many other sorts of standards in addition to those that attend explicitly to organising information and knowledge. This calls for some clarification regarding how to conceptualise standards. The CPR standard differs from the kinds of standards most commonly studied in Information Studies. It is not a standard for organising knowledge, but the standard itself is very clearly an organised knowing about how to resuscitate.

I have found the writings of Bowker and Star (1999), Star and Lampland (2009) and Timmermans and Berg (2003) particularly useful for my investigation. These scholars approach standards and standardisation from theoretical perspectives that have similarities to the practice-theory perspective which will be used in this study and which was introduced earlier. Bowker and Star (1999) are inspired by Bruno Latour and actor-network theory as well as by the work of Jean Lave and Etienne Wenger on situated learning. These theories do share similarities with the version of practice theory that will be used here in that they all pay attention to situated activities and material arrangements when seeking to understand how practices are shaped. The ways in which these scholars conceptualise standards consequently fits well with the overarching practice approach of this study in how they understand standards as taking part in shaping practices as well as being shaped by practices. They also draw attention to the possible friction and discrepancy between the ideals expected of standards and standardisation and their implementation in practices. They do not assume standards to be universally applicable or to be goals in themselves; instead they see standards as enabling certain actions, which also means they can make other actions difficult. Some central points in their conceptualisation of standards relevant for this study will be summarized below.

One broad and general conceptualisation of standardisation is "…the process of rendering things uniform, and *standard* as both the means and the outcome of standardisation. In the most general sense, a standard refers to a measure established by authority, custom, or general consent to be

used as a point of reference." (Timmermans and Berg 2003, p. 24). This conceptualisation highlights two very central aspects of standards: the expectation that standardisation will lead to uniformity, and the notion that standards provide some "point of reference" for further activities. Similarly, Bowker and Star (1999) describe standards as a "set of agreed-upon rules" (1999, p. 13). Such "agreed-upon rules" make things work, persist over time and cross boundaries between communities of practice. Typically standards are mandated by some sort of authority that also enforces their implementation. This circumstance, that there is often some sort of gatekeeper favouring a certain standard, can make it difficult to change standards, and once established, standards are not only difficult but also costly to change (Bowker and Star 1999, pp. 13-14). In many respects, standards differ very much from practices, which appear more organic, elastic and negotiable. Standards, I would suggest, can also be seen as laying the ground for the development of routines and practices. What standards do and what is done with standards must not necessarily be uniform just because standards are uniform, and routines evolving around standards cannot be predetermined. The characteristics of standards presented in this section provide some very interesting entry points into the study of the CPR standard in practice, such as what alliances and links are established between the CPR standard and other phenomena, how consensus is reached, and what has made this particular standard successful.

As shown by the examples in the introductory chapter, standards and standardisation appear in many areas of life and society and can be very different even though they conform with the characteristics outlined above. Electrical plugs, controlled vocabularies, medical guidelines, scientific instruments and tax forms are all examples of standardised objects, albeit clearly very different from each other. These differences are not captured by the broader conceptualisations of standards outlined above.

Timmermans and Berg (2003) distinguish between four kinds of standards; design, terminological, performance and procedural standards. Design standards are standards that specify the design and features of different kinds of devices. This kind of standard ensures uniformity and compatibility by making components work together. Terminological standards are schemes of classification intended to provide stability over time and across

space. In the health care system such standards make it possible to aggregate statistical data from diverse localities and times and make such collections searchable (ibid. p. 25). This conceptualisation of standards also fits in very well with controlled vocabularies and classification, and is the kind of standard most commonly studied in Information Studies. Performance standards specify the outcome of a particular procedure, such as the allowable difference in outcomes following a specific procedure (Timmermans and Berg 2003, p. 25). Procedural standards specify processes and procedures. Examples of such standards are clinical/medical guidelines. This last group also includes the CPR guidelines (ibid.). A procedural standard outlines the steps to be taken under specific circumstances:

> These standards may be written by a single individual or produced through an elaborate process of literature analysis, statistical meta-analysis, cost-effectiveness studies, and consensus-building. They may be more or less detailed, more or less wide in scope and focused on individual practitioners or on different cooperating professionals. They may restrict themselves to indicating what should be done, or focus in detail on how each step should be performed. (Timmermans and Berg, 2003 p. 25-26)

Although standards can be of conceptually different kinds they are often linked to one another (e.g., Timmermans and Berg 2003; Star and Lampland 2009). Standards can be nested in each other, implying that changes to one may have an impact on others. Standards are also integrated into many mundane and everyday life practices although the consequences or impacts of such integrations may vary. Standards may also have different consequences for different people: a standard that works perfectly fine for one person may be an obstacle for another. They may also be unequally distributed: different parts of a population may be unequally prepared for meeting the requirements of e.g. a standardised test (Star and Lampland 2009). Standards are not objective; they are political and have built-in values although these are typically rendered invisible (Bowker and Star 1999; 2000; Star and Lampland 2009).

Within the area of professional health care and medicine in the U.S., standardisation of things such as patient records and medical education

began already in early the 20th century (Timmermans and Berg 2003, p. 10). In the 1980s, interest in standardisation within professional health care increased dramatically. This can be understood partly as a response to demands for equal health care in different hospitals, but also as a way for newer medical specialities to establish themselves within medicine. The development and growth of evidence-based medicine was one outcome of this. As Timmermans and Berg (2003, p. 14) point out "evidence-based medicine opened up "…a conceptual space for other forms of standardization in medicine" and it is in this way different from earlier existing standards in medicine and health care that concerned things such as safety measures and medical training curricula, evidence-based guidelines guide the work of medical professionals (Timmermanns and Berg 2003, p. 10). In the "conceptual space" of evidence-based medicine standards for things and activities such as collaborative research, welfare policies and standardised protocols for assessing disability and compensation took form (Timmermans and Berg 2003, p. 14). These standards can, using the terminology of Star and Lampland (2009), be conceptualised as nested standards. It is thus reasonable to assume that the conceptual space of the bystander CPR standard also contains nested and otherwise associated standards and standardised phenomena.

Historically, society's interest in standardisation and classification coincides with the development of the modern nation state (Star and Lampland 2009). Timmermans and Berg (2003, p. 8) write that "[t]he notion that predictability, accountability, and objectivity will follow uniformity belongs to the Enlightenment master narratives promising progress through increased rationality and control". The idea of standardising predates the modern nation state, but with modernity the interest in standardisation increased and spread into many different areas of life. In modern society culture-based standards were replaced by technological ones (Krislov 1997, p. 12). One such modern endeavour and form of standardisation was a form of industrial production now called Taylorism, which sought to increase efficiency in the manufacturing industry. By means of early 20th century scientific methods the process of production was divided into units and the time needed to perform each step measured, measures which in turn was used to increase efficiency. This method which was

widely criticised and abandoned was supposed to enable managers to teach employees the best way of performing a job and make production more efficient (Krislov 1997; Timmermans and Berg 2003). After the First World War, standardisation was no longer as closely associated with technological and scientific progress, and instead concerned with more mundane matters such as making components compatible (Timmermans and Berg 2003, p. 12). By the end of the Second World War, standardisation also became a means of facilitating international trade. With the formation of international trade organisations the interest in standardisation grew anew. According to Krislov (1997), standardisation provided a means by which ideologies of globalisation and a free market could be facilitated and realised.

As the examples above illustrate, the objects of standardisation as well the reasons for standardising have changed over time. With modernity, what can be described as different forms of universal information also appeared. Star and Lampland (2009) write that phenomena such as quantification and formal representation, i.e. the ways in which synthesized data is visualized in models and the like, have affinities with standards and standardisation. These three phenomena – standardisation, quantification and formal representation – can all be described as transformations of particularities into abstractions and generalizations with universal aspirations, and are all phenomena that appear more frequently with modernity (ibid.).

To summarize, standards are intended to impose uniformity and order on an otherwise messy and heterogeneous world of artefacts, activities and processes. Standards commonly disregard the particularities of specific situations, but aspire to be generally and universally applicable. However, the realisation of standards in practice is rarely as perfect as in theory, making this intersection a particularly interesting area of study (e.g., Bowker and Star 1999; Star and Lampland 2009). A wide array of things and activites have been subjected to processes of standardisation. Although the purpose of this have been to enhance order, standards and standardisation have proven to have consequences for people irrespective of whether standards concern how work is to be organised, what medical treatmens are being offered or to what degree electronic equipments are compatible (e.g.,

Bowker and Star 1999; Timmermans and Berg 2003). The CPR standard, which is the starting point of this study, specifies a procedure – it organises and represents actions. It is a procedural standard which is supposed to become known and embodied by the Swedish lay public by means of activities of different kinds, which will be further discussed in forthcoming chapters. These activities, as will be shown, encompass additional components and informing activities when compared to the general standardised guidelines.

What has not been addressed by the theories hitherto presented is how power and control are deployed in the routines concerning lifesaving and CPR-training. Although the body is central to practice theory, in being both a material component and the location of the practical know-how, the understanding of practices presented above fails to address how issues of power and control are connected to the body. This is of particular concern here since resuscitation is about controlling and maintaining life through individuals' assimilation of a particular set of skills. The last section of this chapter presents the fourth theoretical component, which is made up of theoretical concepts that will be used for understanding and conceptualising how notions of control are inscribed into resuscitation and CPR, and how lay rescuers are shaped through participating in enactments of resuscitation.

Governance and control

Timmermans (1999) and Singelton (2005) showed in their studies, referred to in the introductory chapter, that the distribution of CPR skills among the lay public and the organisation of bystander CPR classes can be described as furthering a medically defined way of handling death. A useful concept for understanding how medicine seeks to control and regulate life, bodies and populations is bio-power (Foucault 1978).

The notion of bio-power refers to different ways in which life is controlled and monitored in modern society. In contrast with the power of the sovereign in feudal society, where governing was done by controlling death – by determining who should be spared and who should not – power in modern societies became a matter of governing life (Foucault 1978,

pp. 135-145). Foucault (1978, p. 149) differentiates between two forms of power over life, means by which the population and the population's bodies are controlled and shaped to behave in particular ways. The first form comprises the ways in which institutions such as the army or schools discipline bodies and oblige bodies to behave in certain ways. This disciplinary form of bio-power aspires to make maximize bodies' performance, and sees bodies almost as machines that can be adjusted. The second form of bio-power attends to the biological body and refers to the ways in which bodies are politicised and controlled. This is made possible by certain ways of knowing about biological bodies, including knowledge about the populations' longevity, birth rates and ways in which health can be monitored (Foucault 1978). This may encompass things such as how certain ways of eating, exercising and living are encouraged in order to promote well-being amongst both individuals and the population as a whole. The notion of bio-power is thus useful for inquiring into how the life-giving practice of resuscitation is implicated in larger processes of governing populations, that the micro-perspective offered by practice theory cannot explain.

Yet another way in which the governing of populations can be conceptulised is through the notion of governmentality (Foucault 1991). Foucault defines governmentality as "the conduct of conduct" (Gordon 1991); a definition I think requires some further explanation. Conduct refers both to how people are led and directed, and to how people guide their own conduct in different sorts of situations or with different people (Dean 2010, p. 17-18). Conduct can also refer to behaviour, which is commonly judged against some sort of norm of what is considered desirable and acceptable behaviour (ibid.). Governmentality is made up of two differnet kinds of technolgies: technologies of power and technologies of the self. As conceptualised by Foucault himself, technologies of the self are technologies that:

> …permit individuals to effect by their own means or with the help of others a certain number of operations on their own bodies and souls, thoughts, conduct, and way of being, so as to transform themselves in order to attain a certain state of happiness, purity, wisdom, perfection, or immortality (Foucault 1988, p. 18).

Technologies of the self thus refers to the ways individuals regulate their own conduct. Technologies of power, on the other hand, are technologies by which individuals are submitted to certain rules of conduct in order to achieve certain ends (or, in other words, the ways in which subjects are turned into objects). Together these two technologies constitute the particular form of governing termed governmentality (Foucault 1988; 1991). The term technology is to be understood in this context as "a matrix of practical reason" (Foucault 1988, p. 18), which can be more simply described as a combination of the acquisition of certain skills and attitudes (ibid.).

Governmentality is the concept used to describe neoliberal forms of governance and where neoliberal societies are characterised in particular by the dislocation of responsibility from the state onto individuals (Rose, O'Mally and Valverde 2006). Choices and freedom often function as technologies of the self, by which people are made to act in ways that allow for the fulfilment of goals and aims they themselves have not set up.

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Resuscitation is ultimately about giving life by averting death and it operates through a particular knowing, which is standardised today and supposedly also something that is easily embodied as know-how. The four theoretical components presented in this chapter complement each other by highlighting different aspects of the intersection of the standardised guidelines, practices, information, and how those participating in these enactments are shaped. How these diverse components will be used can briefly be described in the following way. The practice perspective will assist in identifying how diverse enactments and configurations of the standardised guidelines are enabled by drawing attention to how changing elements are linked to each other in enactments of resuscitation. The conceptualisation of information as being of different modalities allows me to identify various iterations of information in enactments and configurations of resuscitation. Previous studies of standards have shown how standards both enable and disable actions, which is a useful insight when thinking about what the bystander CPR standard makes possible and what

it does not. The last components, the notions of bio-power and governmentality, pinpoint how the practices of distributing and imparting CPR skills among the lay public shape particular subjects by disciplining and optimising participants' capacities to engage in lifesaving. These concepts will be used to address how lay rescuers are shaped through participating in bystander CPR training.

3. Shaping lay rescuers for the good of the nation

The first configuration of resuscitation to be examined is that which appears in the work of the *Swedish Lifesaving Society* during the first half of the 20th century. This is by and large a study of contemporary enactments of resuscitation and of how information is enmeshed across the routines by which resuscitation skills are distributed among the lay public today. The study will however begin by exploring some of the previous enactments of what has today seemingly solidified into a more established set of routines for lay participation in resuscitative interventions, and when informing about resuscitation. This helps us to understand how links between elements are made in the configurations of resuscitation appearing in the *Swedish Lifesaving Society*'s yearbooks in the first half of the 20th century. Although far from arbitrary, they are still movable, which is important if we want to understand how standards evolve in routinized practices. This also paves the way for a discussion in later chapters of the ways in which the imparting of resuscitation skills to large parts of society is closely tied to the development of modern, neoliberal society as well as the welfare state and the emergence of a particular kind of subject who self-administers her capabilities to act as part of an individualised responsibility and as part of a larger societal project. Thus this chapter provides a foundation for discussing how the lay public is shaped into lay rescuers, and what role information plays in this process.

I have found the yearbooks of the *Swedish Lifesaving Society* particularly interesting for inquiring into how the lay public was previously implicated in lifesaving practices and also how resuscitation was configured prior to the establishment of the bystander CPR guidelines. The *Swedish Lifesaving*

Society was, and continues to be, a well-known and established public entity whose work has centred on promoting swimming, lifesaving and resuscitation skills and techniques. As such the Society was circulating resuscitation skills among the Swedish population long before these were formulated into a standardised script. Although the Society is an existing and active organisation, I will only discuss its work during the first half of the 20th century here. In their work, the distribution of resuscitation skills is closely connected to the distribution of swimming skills. The publications of the *Swedish Lifesaving Society* provide interesting insights into how resuscitation skills were actively disseminated among the Swedish population already at the beginning of the last century. The yearbooks provide insights into these activities while also accounting for some major medical developments in the domain of resuscitation. It is significant that, the accounts in the yearbooks are also about modern Swedish society. Thus, in relation to the popularisation of resuscitation skills, the *Swedish Lifesaving Society* can be said to have been a long-time intermediary between the medical sciences, the Swedish population at large, and modern ideas and ideals.

The yearbooks' publication dates range from the second decade of the 20th century to the early 1970s. I have focused particularly on those dating from the first half of the 20th century, before CPR became the standard method for resuscitation. During this period there was not, as there is today, one single standardised resuscitation technique in circulation, instead there were different techniques that occasionally competed with each other, and during some periods more than one technique was in use at the same time. This makes this period particularly interesting for tracing the dynamics of resuscitation which is today commonly associated with one particular and standardised technique. How the techniques predating CPR were distributed and how the active disseminating work undertaken by the Society was legitimated can be traced in the yearbooks. The yearbooks include texts of various kinds, texts accounting for and comparing different resuscitation techniques, reports from activities of local chapters of the society, instructions for how to swim and directions for lifesaving and resuscitation techniques currently being advocated. In style the articles are occasionally abstract and have what can be described as a scientific tone,

while at other times they are very down-to-earth and connected to examples from everyday life.

My reading of the yearbooks was structured around two issues, which were guided by two questions: why the distribution of resuscitation skills in society was considered important, and how these skills were distributed to the public. I carefully read the table of contents of each yearbook and then went on to study those articles that touched upon either one or both of the two themes in focus. The yearbooks also include yearly reports from the board. These are interesting since they provide insights into what the Society itself wanted to highlight as their most important achievements to be passed on to posterity. In perusing these reports as well, my reading was guided by the two issues in focus: what were the reasons given for the importance at this point in time of conveying of these skills, and how did the Society go about imparting resuscitation skills to their members and the general public?

Lifesaving societies

Resuscitation today de facto equals cardiopulmonary resuscitation (CPR), which is constituted by chest compressions, mouth-to-mouth ventilation and defibrillation. These three components were developed separately (DeBard 1980). Before their development and unification, other techniques were used. These differed from CPR in that they centred on restoring breath while later techniques, like CPR, targeted circulation (Cooper, Cooper and Cooper 2006). There were various breath-centred techniques, and different ones were used at different times. One method advocated in the 16th century was to blow air into the mouth of drowning victims with the use of bellows. A few commonly mentioned techniques found in historical overviews concerning the time from the 18th and 19th centuries onwards, included among others, techniques intended to stimulate respiration, such as inversion, or rolling the body over a barrel (see e.g., Chamberlain 2004; DeBard 2008; Timmermans 1999, p. 38; Åström 1998, p. 87). The mouth-to-mouth method, which today is one of the components of CPR, was used in the 18th century but abandoned in favour of other manual resuscitation techniques (DeBard 1980). The reason that this technique

fell out of favour for such a long time was that its execution was thought to damage the casualty's lungs, and that the exhaled air was thought to contain insufficient amounts of oxygen (Cooper, Cooper and Cooper 2006). It was not until the mid-20th century that mouth-to-mouth ventilation came back into use (DeBard 1980; Wiklund and Holmstedt 1989).

It is important for the aim of this study to understand and gain insight into how these techniques came to succeed, how they were spread and became widely known. According to Timmermans (1999, p. 32) the formation of community-level lifesaving societies lead to the dissemination and advancement of resuscitation techniques as these societies educated the population. Their work also lead to these techniques gaining the approval of both civil and religious authorities: engaging in resuscitation efforts was recognised as a philanthropic activity that was not in conflict with religious norms. These societies did not only further awareness and knowledge about resuscitation, they also sought to improve and advance the resuscitation methods themselves (ibid.). Timmermans (1999, p. 32) says that resuscitation techniques were enabled by the combination of technologies and the belief in the reversibility of death. Using practice-theory terminology, the belief that the dying process can be reversed can be said to constitute an element of meaning, even if the actual technique with which this element has been associated has changed over time.

The *British Royal Humane Society* was one such Society that advocated the use and distribution of resuscitation techniques. It was formed in London in 1774 by two physicians. Its aim was to further knowledge about both swimming and resuscitation among the British population (Royal Humane Society, n. d.). This Society recommended certain techniques and forbade others, without having any real power of enforcement. It made its opinions known through public warnings. At the time of the formation of these lifesaving societies, resuscitation was promoted mainly as a technique for saving the victims of drowning accidents. During this Society's first years of existence survival rates were impressively high amounting to over 40 % of all attempts. When counting reviving attempts, the rescuing of people out of water and treating people that were unconscious as a consequence of inhaling smoke were also included (Timmermans 1999, pp. 37-38). Successful reviving attempts comprised accidents and rescues which

would today not count as requiring resuscitative interventions. Drowning accidents were common in both Britain and the Netherlands due to their open water and waterways (ibid. p. 33). Sweden, with its extensive coastlines and many lakes and rivers, was quite similar in this respect. Between 1881 and 1895, an average of 1 086 people died each year by drowning (Holmberg 1998, p. 14). The total population of Sweden was about 5 million at that time (Statistiska centralbyrån 1969). According to an investigation carried out in the late 19th century, death by drowning was the most common cause of violent death in Sweden at the time. Out of 14 specified forms of violent death, those caused by drowning accounted for 52.5 % (Holmberg 1998, p. 14). In response to this, and inspired by another British lifesaving society (the *Royal Life Saving Society*, established in 1891 with the mission of advocating water security [Royal Life Saving Society UK 2014]), the *Swedish Lifesaving Society* was formed in 1898 (Holmberg 1998). The Society's first meeting was held in November 1898 at the Royal Palace in Stockholm and was attended by the Swedish crown prince (ibid. pp. 8-11). Judging from the titles of the other 15 attendees – doctor, director, principal, major, colonel and the like –, the founding members of the Society appear to have been from the upper classes of Swedish society. Not surprisingly, several of them were affiliated with the navy, bearing titles such as captain or rear admiral. It does not seem far-fetched to assume that they had witnessed or experienced drowning accidents in the course of their careers.

The aim of the Society as stated in its statute, which was approved at its first meeting in 1898, was to "…spread knowledge about ways in which the drowned can be saved and the apparently drowned restored to life, and to promote swimming skills in the nation" (Murray 1918, p. 3). The formation of the *Swedish Lifesaving Society* was thus not an isolated phenomenon, nor was their agenda unique by international comparison. The Society can be described as the Swedish equivalent of a type of organisation that had already existed for some time in other European countries, such as those presented above, and whose work was to promote and spread swimming, lifesaving and resuscitation skills. The Society championed the dissemination of three particular skills: swimming, lifesaving and resuscitation. They were all seen as means by which the number of deaths by

drowning could be reduced and lives saved. Based on the topics discussed in articles in the yearbooks, and reports from local committees also published in these, the Society's mission was transformed into activities such as lobbying for the inclusion of swimming in school curricula and for the construction of municipal public baths, the organisation of swimming and lifesaving courses, instructor courses and the development and distribution of instructive material of different kinds. The distribution and dissemination of different forms of information can thus be described as a core activity of the Society and something that was done in many different ways. I will shortly return to this, but before doing so I will account for the most commonly mentioned resuscitation techniques found in the yearbooks published during the first half of the 20th century.

How to resuscitate

In the *Swedish Lifesaving Society*'s writings, in their instructive material and manuals, four different resuscitation techniques dominated during the first half of the 20th century and prior to the establishment of CPR. These were the so-called Silvester method, the Schäfer method, the Holger Nielsen method and Eve's method, all named after their respective inventor.

Of the four techniques, the Silvester method was the earliest, as well as the one advocated at the time of the Society's founding. It was performed by placing the casualty on his or her back, pulling the arms over the head of the casualty in order to enable inhalation and alternately pressing the arms onto the casualty's chest in order to cause exhalation (e.g., Åström 1998, p. 88). The Silvester method was later replaced by the Schäfer method. This was another manual ventilation technique, carried out by placing the casualty chest down on the ground with his/her hands overhead. The procedure was to lift the casualty by the waist, in order for any water in the mouth or airways to run out, and then to apply pressure on the lower back. These two steps were to be alternated in order to facilitate inhalation and expiration. Procedures did not only include the actual resuscitative techniques but also how to care for the casualty after he/she had regained consciousness. Thus the resuscitated casualty was to be kept dry and warm, and be gently massaged with wool in the direction from the hands and feet

towards the heart. As respiration became normal, the person was to be placed in a warm bed in a well-ventilated room and administered teaspoons of hot milk, coffee, tea or wine as soon as he/she was able to swallow. ([Möller] 1932, pp. 107-111)

Instructions for how to perform the Schäfer method were published in the Society's yearbooks for the first time in 1917 (Åström 1998, p. 88). Although the Society advocated the Schäfer method, there appears to have been disagreement amongst international expertise regarding which of these two techniques was the most efficient. A report from a resuscitation conference held in Amsterdam in 1926, and published in the Society's yearbook in 1927, provides some insights into this. After several speakers had presented their own modified versions of the Schäfer and Silvester methods, the lack of consensus was lamented:

> The current state of affairs, in which the entire responsibility for the choice of artificial respiration method in resuscitation falls exclusively on the rescuer, is deeply unsatisfactory. How much easier and simpler would it not be, he ventured, if one method alone could be established as the one to be used. (Lindsjö 1927, p. 14)

One reason given for the lack of consensus was the absence of comparable data about the different methods (Lindsjö 1927). Today, responsibility in relation to resuscitation has nothing to do with choosing methods or selecting procedures. How responsibility figures in contemporary enactments of resuscitation is something I will return to in Chapter 6.

In the 1930s a modified version of the Schäfer method was developed: the Holger Nielsen method. The modification involved the rescuer's hands being placed over the casualty's shoulder blades instead of over the lower back, and was intended to increase the pressure applied to the chest (Åström 1998, p. 89). The 1938 annual report by the Society's board stated that the Holger Nielsen method would, from then on, be taught in parallel with the Schäfer method ([Murray and Möller] 1939, p. 262). Yet another method was introduced in the 1946 yearbook: Eve's method ([Gustavsson] 1946). This method included the use of a stretcher on which the casualty was to be placed chest down and then rocked back and forth. This

technique was described as differing from earlier ones in that it did not only aim at restoring breath; it also strived to improve circulation (Gordh 1952, p. 24). However, Eve's method did not replace earlier resuscitative techniques, but rather appears to have complemented the Schäfer method. Rescuers were to begin with the Schäfer method while other helpers fetched the stretcher and prepared it for usage (ibid.). This kind of division of chores between helpers resembles how participants in bystander CPR classes today learn to divide tasks between them: while one begins with CPR, another goes to fetch the defibrillator.

Although Eve's method was celebrated for targeting both breathing and circulation, it occasionally proved difficult to perform in certain locations such as ambulances. Still, it was described as very useful in locations where drowning accidents were more likely to occur such as on beaches, ships, in hospitals and factories (Anon. 1953, p. 29). The 1958 yearbook accounts for the distribution, in collaboration with an insurance company, of 830 stretchers for performing Eve's method near Swedish waters ([Lundstedt] 1958, p. 45), which suggests that the method did have substantial distribution. The way that these stretchers were placed by beaches, lakes and rivers resembles how lifesaving devices such as defibrillators can be found today in many public spaces.

Retrospective accounts of the Society's work, and of how resuscitation techniques have advanced, can also be found occasionally in the yearbooks. One such text, published in the 1953 yearbook, reviews the Society's first lifesaving and resuscitation manual from 1900. According to the review this manual did not only describe the recommended resuscitation technique, but also those that were classified as either erroneous or unnecessary. Such erroneous methods included tying a towel around the head and mouth of the casualty, apparently a customary method among the population of the Swedish archipelagos and done out of fear of the breath slipping away, out the mouth, causing death. Tickling the throat was another method listed as erroneous since it could cause vomiting, and placing the drowned face down, to try to make the water come out of the lungs, was not the right thing to do either. Measures listed as unnecessary included tickling the throat with a feather pen, holding substances with strong smells such as ammonia under the casualty's nose, or brushing hands and

feet. Valuable time was lost in carrying out such measures. (Skoglund 1953, pp. 13-14)

This text very clearly illustrates how the element of meaning mentioned previously – the belief in the possibility of resuscitation – has been associated with very different measures at different times. Regardless of whether these consisted in tying towels around the head of the casualty or applying the technique currently recommended by medicine, they were and are all associated with the actual possibility that life could be restored. Most contemporary readers would probably find the Schäfer, Holger Nielsen and Eve's methods as strange as a reader in the 1950s found those described and used at the turn of the 20th century. The notion of the possibility of resuscitation has clearly outlived many of the methods by which it was to be realised.

Not only did the methods used to resuscitate change over the years – so did the tone and form of the instructions provided by the Society. In the above discussed review of the Society's first resuscitation manual, the author comments not only on the outdated techniques but also on the tone of the instructions, on how exercises are described with military severity. The author, who appears to have been amused by this, writes "…even a thoroughly drowned person would find it in the interests of his/her own health to be resuscitated as quickly as possible" (Skolglund 1953, p. 11). The way of instructing had changed together with the resuscitation techniques, together they now seemed close to irrational and worth distancing from.

As was shown earlier, with reference to previous studies of information in social practice (e.g., Haider 2011; Veinot 2012 etc.), information or acts of informing/being informed are not always explicit, but can be embedded and interwoven in activities whose aim may not be primarily to inform (Cox 2012). The following section will look at informing activities and measures taken by the Society in order to involve and prepare the general population for participating in resuscitation attempts

Informing about resuscitation

How, then, did the Society transform their lifesaving mission into actions? Through what means and activities did they actively promote the distribution of the skills they championed?

The way swimming, lifesaving and resuscitation skills are linked to each other in the yearbook texts can be described thus: the increased spread of swimming skills would reduce the number of drowning deaths since people who know how to swim are less likely to drown. By having lifesaving skills, people would not only be able to save themselves but also others. But having such skills, i.e. knowing how to bring drowning victims ashore, might not always be sufficient. Knowledge about how to resuscitate was required for treating the apparently drowned. In the activities and writings of the Society, swimming can be described as a condition for lifesaving, to which resuscitation skills form a link. Swimming, lifesaving and resuscitation techniques can thus be said to be three competences promoted and circulated by the Society. Of these three competences, swimming features most prominently in the yearbook texts. Swimming is described in different ways: first, ways of swimming, such as different swimming techniques, e.g. crawl (e.g., Adlerz 1927; Bergvall 1923; Möller 1923) and breaststroke, and second, different ways to know about swimming, practical know-how (Möller 1933) and scientific inquiries into the physiology of swimming (Liljestrand and Stenström 1926). Resuscitation methods were also presented in similar ways. The yearbooks included instructions for how the advocated resuscitation techniques were to be performed, and these instructions usually encompassed both images and descriptions in writing (e.g., [Möller] 1932), stories of situations in which these skills were either being taught or used (e.g., Anon. 1943; 1944). The books also include scientific inquiries and findings about the effects of the techniques, comparisons between different techniques and presentations of scientific inquiries (e.g., Lindsjö 1927). The resuscitation techniques described and discussed were in these texts thus situated in situations presumably familiar to the general public as well as in medical scientific research practices of the time. What is most interesting to delve deeper into are the ways in which the Society sought to inform the lay public about how to resuscitate, and how

this information was enmeshed across lifesaving practices. Irrespective of which technique was currently the preferred one, people needed to be informed about it and know how to perform it. The bodies of rescuers were, and continue to be, central material elements in enactments of resuscitation. Although recommended resuscitation techniques changed over time, some of the ways in which the Swedish population were informed about them have remained recognisable.

Throughout the first half of the 20th century the *Swedish Lifesaving Society* continued to produce and circulate instructions for swimming, lifesaving and resuscitation in different shapes and forms. The Society's annual report often mentions instructional material which has been developed and distributed, as do many of the articles found in the yearbooks. The society provided instructional material for resuscitation, and this material became increasingly diversified as the 20th century progressed, both in terms of the media used to convey the message and of what the instructions were about. Instructional images with brief texts for "treatments of the apparently drowned" appear as one of the earliest kinds of instruction (see e.g. Swedish Life Saving Society 1917; 1918; 1920). This type of instruction posters were regularly revised and distributed to schools with the intention to educate and enlighten (Anon. 1923, p. 143). They were also made available to other organisations, to be included and printed in journals and handbooks ([Murray and Möller] 1924, p. 145). This kind of material produced by the Society resembles the kind of information Lloyd (2007; 2009a) has conceptualised as the instrumental modality of information in how it lacks circumstantial details, containing only measures. These instructions can thus also be described as abstractions of the know-how about how to resuscitate, easily circulated in print form to schools or any other organisation interested.

Information about resuscitation was to reach the Swedish population in many different ways and forms. The first film about lifesaving was made at the end of the 1920s ([Murray and Möller] 1927, p. 190). In the 1930s, other distribution channels were added. The annual reports from the Society's board account for how manuscripts were sent to Swedish Radio and read by a presenter (e.g., [Murray and Möller] 1933; 1934; 1935). The contents of this manuscript differed depending on the season. In the summer

it talked about the importance of learning how to swim and regulations for lifesaving and resuscitation as well as other security aspects of bathing. According to the same annual reports, radio transmissions had given the Society "… significant contact with the very widest circles, and the ability to draw attention to the participation of a great number of homes in the work against death by drowning" ([Murray and Möller] 1933, p. 188). Radio transmissions facilitated the circulation and geographical distribution of their agenda and the security measures and skills they championed. Brief news items were published in the daily press about security in relation to bathing and swimming, and about the need for public municipal baths (e.g., [Murray and Möller] 1934, p. 179). Informing about lifesaving and resuscitation was enmeshed across other emergent practices, such as listening to the radio or going to the cinema. Instructional material was also circulated to other organisations like the *Swedish Red Cross*, the *Swedish Social Democratic Youth League* and the *Mission Covenant Church of Sweden*, to be published in handbooks ([Murray and Möller] 1935, p. 227). During the first half of the 20th century, information about how to resuscitate circulated by the Society was primarily linked to the dangers of the sea and to drowning accidents. This information concerned the practical know-how of the, at the time, advocated techniques for resuscitation and lifesaving.

In addition to producing and distributing instructional material in various media, the Society also spread their mission through different kinds of activities. As early as in the mid-1910s, the Society advocated swimming education in schools (e.g., Möller 1916). Initially this training consisted in practicing swimming strokes on dry land, since bathing facilities were not always available. In addition to campaigning for swimming to become integrated in school education, the Society and its local committees organised swimming and lifesaving courses, swimming instructor courses, competitions and displays in many different parts of Sweden. A writer describing the activities carried out by the Society's committee in the town of Norrköping wrote: "At the Society's displays I have demonstrated how to release oneself from the drowning person's death grip, as well as methods for bringing ashore and restoring the apparently drowned to life" (Liljegren 1917, p. 47). Competitions and displays were recurring events organised in

different parts of Sweden by the Society's local committees with the aim of encouraging the population to learn both swimming and lifesaving. A report from the local committee in the town of Borlänge accounts for how Eve's method have been demonstrated and taught on their summer courses, and that this particular committee planned to place the stretchers needed to perform this method by the larger bathing locations in the municipality. This resembles how defibrillators are placed in public places today, as artefacts reminding and informing us about possible dangers and risks. According to the report from the committee in Borlänge, a film about Eve's method had been shown to 1 600 school children, which, the writer argued, made it plausible to assume that the town's inhabitants now knew how to use the stretcher (Humble 1947, pp. 125-126). Promotion of swimming, lifesaving and resuscitation skills took various forms and know-how information was embedded in activities such as displays, competitions and classes. Those may, in contrast with the instructional material of posters and the like, be assumed to have provided access to what can be conceptualised as corporeal modalities of information. Activities aiming at informing were incorporated into and part of enactments of resuscitation, and resuscitation in turn was embedded in practices such as schooling and bathing. Today, activities of informing about resuscitation are also embedded across established practices, although these are not only connected to bathing and swimming but often part of occupational health and safety issues, something I will return to in later chapters.

Another way in which the yearbooks informed about the dangers associated with waterways, and about resuscitation, was through accounts of rescues, both failed and successful. These reports anchored the information about lifesaving in everyday life situations. They describe who the rescuer was, what the rescuer was doing when the emergency arose, how it attracted the rescuer's attention and so forth. These reports described rescues in water, most of them involving bringing casualties ashore, but also incidents where the rescuer used resuscitation techniques. The accounts do not describe which technique was used, but they are rather detailed concerning the circumstances of the rescues, the names of the people involved, the depth of the water, the weather conditions, the dangers and the bravery. These stories are described, in an accompanying introductory text, as pro-

viding "…valuable information, both about both how to act and how not act in near-accidents of this nature" (Anon. 1943, p. 79). By entitling these reports "Heroic Rescues" the Society explicitly associated the activities they describe with bravery. These stories, despite being written texts, resemble the kind of information Lloyd (2007; 2009a) has termed the social modality of information in that they are deconstructions of past happenings from which things can be known – what to do and perhaps what not to do. They evoke circumstances and describe individuals with whom it is easy to imagine that many people identified. These stories describe how ordinary people can become rescuers and heroes if they acquire lifesaving and resuscitation skills. They connect the material body of the rescuers to the meanings of heroic deeds and to the competences of lifesaving and resuscitation.

One example of an account that has these components is the story of a couple, referred to in the text as Niklasson and his wife, who had gone down to the lake to bathe. On arriving they spotted a five year old boy, Bengt, floating in the lake without showing any signs of life. Niklasson waded out into the water, which was not very deep, and dragged the boy ashore. The boy's face was blue and strange-looking, but the couple who had both attended a healthcare course organised by the *Red Cross*, began manual ventilation. The story describes how the common activity of bathing took a horrific turn and became a matter of life and death. According to the story, the boy began to show signs of life after a little more than half an hour. The doctor who arrived at the scene was apparently very pleased with the rescue work carried out by the couple. Bengt's mother had been at home when the Niklassons had found the boy, but had become worried when she saw a friend of her son's on his own. She had asked him where Bengt was and the boy had replied that he was lying in the water. The mother, now alarmed, rushed to the lake where Niklasson and his wife were already busy "restoring Bengt to life" (Anon. 1944, pp. 64-65).

The account does not specify what techniques the couple used, but is detailed in regard to other aspects of the rescue, the appearance of the boy, the alarmed mother and the persistent couple who did not give up. It is a story of fears, hope and persistence and it has a happy end. This story does not display the summoning and military rigidity that marked the 1900

resuscitation manual, which amused the writer of the retrospective article mentioned earlier (Skoglund 1953). This account does not have such an explicit exhorting connotation. It operates more subtly. It does not discipline and require the reader to aquire lifesaving skills, but rather it can be described as encouraging readers to reflect on their ability to act in a similar manner, and in doing so it encourages a particular conduct, but without lecturing or admonishing. The story describes how the Niklassons engage in resuscitation, and very successfully so – even the doctor is pleased. The locality and the way the act of resuscitation occurs in a situation which has very mundane and everyday components suggests not only that drowning accidents do happen, but also that they can be successfully remedied by ordinary but skilful people like Niklasson and his wife. What, then, was it that turned ordinary people into skilled lifesavers?

The *Swedish Lifesaving Society* was founded and began its work at a time when new ideas were spreading about how education, health and hygiene could benefit the progress of the Swedish nation state. The spread of these ideas and the kind of society these were associated with provide a societal frame for understanding the meaning of the lifesaving practices the Niklassons engaged in; what made them and many other Swedes take part in this practice. From being of primarily individual concern, health and hygiene were gradually, from the 17th century and onwards, transformed into a national concern. The analogy of the body was used to describe the collective. Just like individual bodies, the collective body was to grow. The individual body and the individual's health were part of the collective common capital and as such connected to that of the body and health of the nation (see Johannisson 1991; Stråth 2012, pp. 254-273). At the turn of the 20th century, there was a multitude of popular movements promoting public health and education in different ways in Sweden. It is therefore no coincidence that The *Swedish Lifesaving Society* appears at this particular time, with its enlightenment mission regarding the importance of swimming, lifesaving and resuscitation.

The biopolitics of resuscitation

What is particularly striking about the texts in the *Swedish Lifesaving Society's* yearbooks is how modern ideas are inscribed into the Society's work and mission, and thus become associated with the lifesaving practice of resuscitation. The main motivating factor for the formation of the Society was clearly the number of deaths by drowning in the country. According to drowning statistics reported by the Society in 1919, the number of deaths caused by drowning amounted to a yearly loss of 1 100 lives (Möller 1919). This loss of lives was described as a loss to the national economy:

> For a thinly populated nation such as Sweden each pair of able arms represents capital – and capital severely underrated in hard times like these. It would seem apt in this context to cite mortality statistics – 1,100 deaths by drowning each year. A responsible people does not turn a deaf ear to the grave national 'memento mori' underlying these figures. Sweden, with its rich and unexploited expanses, cannot afford in national economy terms to dismiss this yearly loss of Swedish citizens' lives with a shrug of the shoulders. (Möller 1919, p. 21).

Times were hard in Sweden around the time of the First World War, marked even by famine. In advertising campaigns for nutrient products, the body was used as a metaphor for society. Just like the individual person's body, the body of society required resources in order to work properly, and the population were its nutrients (Olsén 2013). A similar analogy, of individuals being the food of a hungry nation, can be seen in the *Swedish Lifesaving Society's* work after the First World War, as is also illustrated by the quote above. Swimming made bodies healthy, and healthy bodies in turn would help the nation in times of need and struggle. Drowning accidents were reminders of the populations' mortality, and the Society offered a remedy. A population that knew how to swim would not drown – and if someone did drown, resuscitation techniques could be applied to restore them to life. Thus the spread of swimming and resuscitation skills among the population would benefit the progress and development of the Swedish nation.

This particular understanding of the relationship between the nation state and its inhabitants, expressed in the quote above, should be considered in light of the changes brought about by the development of the modern Swedish nation state. In Sweden at the turn of the 20th century, the appearance of the issue of public health in political, medical and public domains can be understood as a manifestation of modernity (Johannisson 1991). The national interest in the population's health was a matter of securing the proper capital – the population – from which the strength of the nation would be secured. Johannisson (1991, pp. 139-140) traces the state's interest in the population's health back to European 17th-century mercantilism. A strong and healthy population was a necessity for the expanding European nations, for agricultural and industrial work, and also a necessity for the availability of soldiers. Until the early 19th century, efforts directed at regulating the health of the population focused on increasing the population in numbers, while later population policy centred on improving the quality of the population (ibid.). This shift in focus resulted, according to Johannisson (1991), from a growing working class marked by poverty and illness. With the development of the modern nation state, governing became increasingly a matter of controlling the population within the nation's territory. Ways of controlling and governing the population included having knowledge about its health and longevity, and monitoring how it lived (Foucault 1978). Around the turn of the 20th century, the desire to control and improve the population material from which a strong nation was to be built is manifested in Sweden by the increased attention paid to health and hygiene in medical, political and public domains (Johannisson 1991).

The work and mission of the *Swedish Lifesaving Society* during the first half of the 20th century must, I argue, be seen in light of these societal and political changes, and as operating at the intersection of the domains of medicine, politics and the public. The perception of the population not as individuals, but as the material from which strong nation states were built, is clearly visible in texts in the Society's yearbooks. The following appeal to the readers illustrates this very clearly and forcefully:

> You who read this, lead by your own examples as hearty swimmers, and spread the appeal from man to man! This is not about the pleasure or joy of the individual, nor about the prevention of a few drowning accidents each year, but about securing a rich source of power for our people. Go forth, therefore, as the heralds of the Swedish swimming sport, and recruit the masses! (von Schéele 1918, p. 74).

Swimming was not purely a matter of pleasure and sport, nor something that was to prevent "a few drowning accidents", but a "source of power for our people" (von Schéele 1918, p. 74). This quote has an exhortatory tone. It can be read as an expression of bio-power, that is, of the way in which modern society sought to maintain control over life through disciplining and regulating bodies and through that regulated conduct. Its disciplinary form operated through institutions such as the army and schools (Foucault 1978, p. 141), but also through popular movements and societies like the *Swedish Lifesaving Society.* The ways in which this organisation sought to impart knowledge about how to swim and resuscitate into the bodies of Swedes can thus be seen as engaging a disciplinary form of bio-power, as striving towards optimising the lifesaving capability of bodies (see Foucault 1978, pp. 140-141). In addition, the quote above also highlights how individuals are part of the larger machinery of society and contribute to its smooth functioning. Discipline is visible in the urgent, demanding and exhortatory tone of statements like in the quote above. This is not equally common in contemporary encouragements about learning how to resuscitate. How encouragements directed at the lay public of learning how to resuscitate have been softened and embedded is something I will return to in Chapter 6.

However, texts from the yearbooks do not only articulate disciplinary forms of control. Citizens' wills to regulate their own conduct are also emphasised. The responsibility for turning the population into skilful lifesavers and swimmers lied with both the state and the citizens.

> Each pair of able arms represents capital for our thinly populated nation… It is our Swedish boys' and girls' indisputable right to learn how to swim under public auspices. Knowing how to swim is not an athletic virtue, it is a civil right, born of the country's encirclement by seas, its wealth of lakes and other waterways – it is a citizen's duty, in a time of danger, to rely on his own strength, his own ability, his own will. ([Möller] 1921, pp. 5-6)

At the beginning of this quote, the analogy between the population and capital is very clear. In addition, knowing how to swim and save lives is described as a citizen's right. This way, the lifesaver's physical body is turned into a means of politics, into an expression of community and responsibility for that community. It is a body that acts in the best interest of the nation and one which accepts that a civil right is also a duty to act in a certain way and to have a will that wants what is best for the country, and importantly one that can be formed accordingly.

The Society also distributed and approved swimming, lifesaving and resuscitation skills by administering tests and diplomas. A similar mutual responsibility between the public domain and individuals can be discerned in how these tests and diplomas administered by the *Swedish Lifesaving Society* are described. The fact that the Society's lifesaving tests and diplomas were referred to as "citizen tests" also illustrate how the shaping of lifesaver subjects were connected to politics of national progress and well-being. Swimming, lifesaving and resuscitation skills were associated with citizenship. An article about such diplomas issued by the Society begins by referring to newspaper chronicles of drowning incidents, how "[t]he rescuer was pulled down into the depths" and how a large number of bystanders "witnessed the drowning struggle". Such incidents showed, according to the writer, that there was both courage and confusion among the population – all reasons for which the Society's work was needed ([Möller] 1929). In the article, what can be described as the social modality of information is mobilised, by which the *Swedish Lifesaving Society's* demands and agenda, and lifesaving know-how is embedded in a story that centres on values rather than how to resuscitate. The practical know-how of lifesaving is in the text connected to notions of being a responsible citizen. The issuing of citizen lifesaving diplomas, for which skills in swim-

ming, lifesaving and resuscitation were required, was one response to the need for eliminating perplexity and confusion among the population ([Möller] 1929). The spread of swimming, lifesaving and resuscitation skills, and the diplomas, would create a skilled and courageous population of lifesaver citizens.

The *Swedish Lifesaving Society's* work and mission, exemplifed and discussed above, managed life though the disciplinig of the bodies of citizens into lifesavers. The Society's work did not only conform to the national project of safeguarding the workforce and capital by reducing the number of deaths by drowning. It was also in line with the increased interest in, and promotion of, hygiene in the early 20th century. Around the end of the 19th century, applied medicine became increasingly concerned with disease, when previously it had been concerned primarily with providing alleviation, comfort and advice for healthy living (Johannisson 1991). This shift can be understood as resulting from the development of bacteriology. Disease had previously been something localized to individual bodies, whereas according to the emerging bacteriological perspective, disease was in the societal body, in bacteria found among and between individuals (ibid., p. 143). In addition to measures that sought to improve living conditions in such ways as to improve hygiene by attending to things like sanitary conditions and housing, bacteriology also led to a new kind of hygiene: social hygiene, and the development of an epidemiological perspective on disease (Johannisson 1991, pp. 143-144). With bacteria having been identified as the cause of disease, hygiene now became a central concern not only of medical actors, but also something which was addressed at the political and public levels (ibid.). Hygiene came to permeate population policy in a number of ways. Bacteriological knowledge was transformed into practical applications such as washing, tooth brushing, cleanliness, vaccines and physical exercise (ibid., p. 157). The skills promoted by the *Swedish Lifesaving Society* can be understood as a similar transformation of ideas of hygiene into practical solutions. One of the writers in the Society's yearbooks wrote: "…since people do not know how to swim, they have fewer opportunities to bathe and do not, in case of distress at sea, possess the aid that acquired swimming skills must be said to provide" (Fevrell 1924, p. 32). According to Johannisson (1991), an attention to

health and hygiene can be found in the work of many popular movements at this time in history. Health and hygiene is very visible in the writings of the *Swedish Lifesaving Society*, and their work can be described as a form of bio-politics (see Foucault 1978) in how it sought to create healthy and clean citizens. Hygiene was promoted by the inclusion of swimming in physical education. Health benefits were expected as the spread of swimming skills were said to increase the interest in taking baths (Möller 1922, p. 25). The bio-political agenda of the Society sought to create hygienic individuals and responsible lifesavers, individuals responsible for their own health and well-being as well as the lives of others, ultimately contributing to the well-being of the nation.

In articles by the *Swedish Lifesaving Society* from the second and third decade of the 20th century, the Society's activities were clearly embedded in the reconfiguration of Swedish society. Swimming and lifesaving was meant to benefit the Swedish nation primarily in two ways: first, by safeguarding the state's human capital by reducing deaths from drowning, and second, by increasing the interest in bathing, by which hygiene and health among the population would improve. Thus the Society's work can be seen as a manifestation of bio-power that disciplined by promoting and furthering the distribution of swimming and resuscitation skills and regulated biological bodies by supposedly saving people from drowning (see Foucault 1978).

In the configuration of resuscitation as featured in the Society's yearbooks, information and informing activities are enmeshed in many ways. The Society circulated instructions and information about resuscitation in different ways. This instructional material was foremost in what can be conceptualised as an instrumental modality of information. Heroic stories, which can be described as a social modality of information, mobilised elements of meaning by ascribing values and morals to lifesaving deeds and associated lifesaving skills with civic duties, consequently focusing on other aspects of lifesaving and resuscitation than the techniques did. The population was informed about resuscitation through activities such as courses and displays, by which means the Society's work was also distributed geographically. The activities organised by the *Swedish Lifesaving Society* popularised and contributed to the dissemination of information about

swimming, lifesaving and resuscitation among the Swedish population, and the wider distribution of lay rescuers who's bodies, using the terminology of practice theory, constitute material elements of the lifesaving practice promoted by the Society. I have shown here how their efforts to popularise swimming, lifesaving and resuscitation were linked to a larger societal project around the first half of the 20th century: the nation's progress and the strengthening of the population. By means of this dissemination, and the population's acquisition of swimming, lifesaving and resuscitation skills, water was re-classified. It was no longer only a danger but also something good, something that could make the population healthy and clean; in other words, water had been turned into something that could give life, instead of take life. When the *Swedish Lifesaving Society* initiated their work at the turn of the 20th century, drowning accidents were a threat to the nation's well-being – a threat that required attention and one the Society took it upon itself to counteract and eliminate.

"All that is needed is two hands"

It was noted already in the early 1920s that the Schäfer method could be used for treating victims of gas poisoning or electrocution (Anon. 1923, p. 150). Still, resuscitation techniques continued to be described primarily as treatments for victims of drowning. Around the middle of the 20th century, resuscitation skills appeared increasingly disconnected from those of swimming and lifesaving, and were no longer as closely associated with waterway dangers and drowning accidents. One development that expanded the usefulness of resuscitation was the spread of electricity. Accidents involving electricity outnumbered drowning accidents by mid-century, according to a report published in the 1953 yearbook (Rye 1953, p. 39). In the mid-1950s, mouth-to-mouth ventilation gained renewed interest, and in the 1960s the technique was internationally recognised as the preferable resuscitation method (Wiklund and Holmstedt 1989). Around the same time, mouth-to-mouth ventilation also became the method advocated by the *Swedish Lifesaving Society*. Measures were immediately taken to make the new method known to the Swedish population. A new technique required new instructional material. Society members also wrote articles on

the topic, for publication in daily newspapers (Lundstedt 1960, pp. 65-69). The techniques advocated by the Society were obviously informed by developments in the medical field. Around the same time that the mouth-to-mouth method became the technique for ventilation recommended by the Society, medical articles on closed-chest cardiac massage were published (see Kouwnhoven, Jude and Knickerbocker 1960; Jude, Kouwenhoven and Knickerbocker 1964). According to these developments and findings, presumably anyone was now able to "…initiate cardiac resuscitative procedures. All that is needed is two hands." (Kouwenhoven, Jude and Knickerbocker 1960, p. 1064). The dangers to be combated were others; medical science evolved and society also changed the ways in which the lay public was implicated in resuscitative endeavours.

Not only the techniques used to resuscitate had changed during the years of the Society's existence – so had the variety of conditions resuscitation techniques could be used for. Artificial ventilation was no longer only a treatment for drowning victims. The chest massage that had earlier been intended to stimulate respiration (e.g. the Schäfer and Holger Nielsen method) was now being used for stimulating circulation, to facilitate the circulation of oxygen. In 1962, cardiopulmonary resuscitation was introduced in the *Swedish Lifesaving Society*'s yearbook (Strömbäck 1962). Drowning was now only one of several possible accidents for which resuscitation methods could be used as treatments. CPR could be used to treat external suffocation following drowning, strangulation, the obstruction of airways with an object or the swelling of airways. It also encompassed internal suffocation due to poisoning, as well as paralysis following contact with electricity, frostbite, neck fractures among other kinds of accidents and states (Strömbäck and Lundstedt 1964, p. 106). Descriptions of resuscitation techniques and their use appear to have paid increased attention to medical conditions, to internal organs and body parts. Explanations of treatments focused increasingly on individual biological bodies.

Following these changes, new configurations of resuscitation can be discerned. They are different not only with regard to the correct resuscitation technique, but also regarding what sorts of accidents and situations in which the technique was to be used, and what it was to treat. Despite these changes, the belief that resuscitation could be achieved appears to

have remained firm and unchallenged. The professionalisation of medicine, and the associated ambition to keep procedures simple, seem to have created a clear divide between the resuscitation techniques used by the lay public and those employed by professionals. The scope of these groups' respective roles can be described as having become more clearly defined. The professional would make use of specific aids, while lay rescuers needed nothing but their hands. Perfect knowledge about how to perform mouth-to-mouth ventilation, without using any kind of aid, was far better than mediocre knowledge about how to use advanced technologies. A physician writing in the *Swedish Lifesaving Society*'s yearbook proclaimed that "…artificial ventilation must be something for the larger public to master" (Strömbäck, 1968, p. 31). Despite an increased professionalization and medicalization of resuscitation, the lay public was not excluded. Rather, the boundaries between the role of the lay public and that of the medical professionals became more clearly defined. CPR for the lay public was to be kept simple!

•••

This chapter has illustrated how standards for resuscitation have changed over time. Even though techniques have changed, the belief in the possibility of resuscitation appears to have remained firm. In the *Swedish Lifesaving Society*'s work during the first half of the 20th century, resuscitation is situated in a lifesaving practice primarily concerned with rescuing the drowned. In the Society's writings from this period, the distribution of resuscitation skills to the larger public can be understood as taking part in the modernizing of Sweden. The Society's work during the 1920s and 1930s was clearly linked to modern ideas of how hygiene, health and education were connected to national progress, and as such this lifesaving practice was also associated with these elements of meaning. Informing the population about how to resuscitate and swim was central to the Society's agenda and took on many forms, some of which remain recognisable today. Posters, storytelling and demonstrations – information in what can be described as instrumental social and corporeal modalities – remain, as the following chapter will show, ways in which the lay public is informed about resuscitation. While posters and demonstrations were ways of cir-

culating the actual know-how of resuscitation, storytelling informed in a different way, and about something different. In stories, circumstances of rescues were more prominent than the techniques used, and the main message was that drowning accidents did happen and that they could be dealt with. Different ways of informing were thus not only a matter of imparting the skills of resuscitation and swimming, but also means of circulating the notion that lives could be saved, and situating the importance of this within a larger societal context.

In the texts studied in this chapter, the distribution of resuscitation skills was ultimately something which was for the benefit of the nation. The Society's work was not only a matter of distributing and imparting certain skills among the Swedish population, but also a matter of shaping particular subjects, lifesaving citizens. Different ways of informing can thus be said to have encouraged the acquisition of resuscitation skills in different ways. It follows that these ways of informing that encompassed different forms of information were quite important in the shaping of lay rescuers.

4. The complexity of simplification

Basic life support is what participants in any bystander CPR class today will learn. It is the only procedure to be performed by lay rescuers, but only one out of several standardised procedures for attending to and treating casualties of cardiac arrest. The fact that the standards are supposed to be general and universal does not prevent other, related routines and procedures from developing and flourishing (Star and Lampland 2009). As was shown in the previous chapter, resuscitation was not tied to one single technique during the first half of the 20th century. Only in the 1960s did CPR become the standard method for resuscitation. Inspired by Bowker and Star's (1999) understanding of classifications and standards as shaping activities and work, this chapter addresses how actions are constrained and enabled by standards and by the routines and procedures that are shaped around them. It has been pointed out that standardisation often leads to further standardisation (Timmermans and Berg 2003, p. 14). According to Timmermans and Berg (2003, p. 14) the development of evidence-based medicine led to further standardisation of many things, such as governmental welfare policies. There are plenty of others standards that complement the CPR standard, such as standardised terminologies for compiling data about cardiac arrest and resuscitative interventions, a standard symbol for defibrillators and other technological standards that although not developed for the particular purpose of resuscitation and lifesaving interventions have become part of this kind of efforts. Standards are, as Star and Lampland (2009) have pointed out, often nested inside other standards, implying changes to one will have consequences for others. They have also stressed that when standards are integrated across practices, they are taken

for granted and made invisible. This chapter takes the bystander CPR standard as its starting point, and inquires into how pratices take shape around it and a how additional standards are integrated into these practices.

This will be done by means of identifying links between elements of competence, materiality and meaning, and how different standards are integrated into the lifesaving practice of resuscitation. Two particular configurations will be studied: first, the one that appears in the procedures described in a consensus statement from 1974, "Standards for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiac Care (ECC)" published by the *American Medical Association*, and second, the configuration of resuscitation that can be discerned in a particular project, namely the *Mobile Lifesaver Project*. This chapter thus seeks to add to the theoretical knowledge about how standards are localized and situated in practices

Standards for resuscitation

Efforts to formalize and standardise resuscitation techniques intensified during the second half of the 21st century, and continue today through the work of a number of international organisations and national resuscitation councils which will be presented in the following section. The idea associated with standards, i.e. that they provide order and enable control, is thus also associated with resuscitation: how to handle the suddenness and unexpected event that is cardiac arrest, and possibly also prevent such an occurrence leading to death.

Organising emergency cardiac care

Standards for CPR and emergency cardiac care were published in a supplement to the *Journal of the Americal Medical Association* in 1974. This publication is thus a useful source for tracing how lifesaving practice was organised at that time. The guidelines for CPR presented in the text were established at a conference held the previous year. The first part of this text describes both how the standard was to be monitored and updated as well as how resuscitation endeavours implicated various organisations and the

lay public. The other parts, which will not be discussed here, include medical descriptions of resuscitation standards for the lay public and medical professionals. Although the recommendations for the implementation of the guidelines concerned an American context, the text articulates a program and a number of ideas which are nevertheless influential, and recognisable in how resuscitation training is organised in Sweden today. The text can be said to describe how expert medical knowledge about resuscitation is transformed into a practical lifesaving application, for which the lay public was, and continues to be, one of several actors. In doing so, the text also describes how procedures evolve and take shape around the bystander CPR standards.

The standards presented in the publication were "prepared by leading authorities" and represented "a consensus of many qualified persons from a variety of disciplines". The introductory paragraphs of the publication also state "…the performance of cardiopulmonary resuscitation is an art that is constantly changing and developing as the benefits of continuing experience and research becomes available, and the standards serve to implement changes as required" (American Medical Association 1974, p. 837). Although the prescribed procedures were standardised, they were to be changed and updated regularly, as the knowledge within the area of cardiac arrest and its treatment advanced.

In the years prior to the publication of these guidelines there had been an increased involvement by professional medical societies and private groups, as well as individuals, in the development of techniques as well as the production of training programs and material. The 1974 guidelines were a result of these efforts and sought "to bring the benefits of cardiopulmonary resuscitation and emergency cardiac care to all segments of the public" (American Medical Association 1974, p. 838). One part of accomplishing this goal was to provide training to the public, to people who did not work within medical services. Another was the continued work by the *American Heart Association*, a volunteer organisation of physicians and researchers with particular focus on cardiovascular disease, of revising and up-dating the standards based on scientific findings and experiences (ibid., p. 840). More lives could be saved following accidents such as drowning, electrocution, traffic accidents, suffocation and drug overdosing "by the

prompt and proper application of cardiopulmonary resuscitation and emergency cardiac care" (ibid,, p. 838). This could be accomplished by bringing the victim into "an organized and effective system of emergency cardiac care" (ibid., p. 838). The configuration of resuscitation that emerges from this text differs from that discussed in the previous chapter in that resuscitation is here a treatment described specifically for cardiac arrest, although there could be many different causes for cardiac arrest. Its execution in the form of CPR and success is dependent on increasingly diverse and specialised groups that together facilitate emergency cardiac care.

The aspiration to save more lives required not only a resuscitation technique, but also an efficient emergency system. The lay public was one important component in such a system and was assigned a particular procedure within the system of emergency care: basic life support. This was described as:

> …an emergency first aid procedure that consists of the recognition of airway obstruction, respiratory arrest and cardiac arrest and the proper application of cardiopulmonary resuscitation (CPR). CPR consists of opening and maintaining a patent airway, providing artificial ventilation by means of rescue breathing, and providing artificial circulation by means of external cardiac compressions (American Medical Association 1974, p. 838).

This description of the procedures for lay rescuers is strictly concerned with measures specifically intended to facilitate breathing and circulation. A comparison with the instructions provided by the *Swedish Lifesaving Society* in the 1920s illustrates how lay involvement in resuscitative efforts had changed. Successful treatment with the Schäfer technique was to be followed by certain precautions and care, such as placing the survivor in a well-ventilated room, massaging him/her with wool or serving him/her teaspoonfuls of brandy or milk ([Möller] 1932, pp. 107-111). Although measures such as these were clearly outdated in 1974, the comparison serves to illustrate how the measures that the public was now meant to carry out had been both increasingly medicalized and clearly delimited to the early stages of emergency care. Basic life support differed from advanced life

support, another standard which required additional medical technologies and medication to be administered under the supervision of physicians, and was thus not to be performed by the lay public (American Medical Association 1974, pp. 838-839). These standards thus set out some boundaries for what bystanders could do and what was for medical professionals only.

The two standards of basic and advanced life support are described extensively in other parts of the 1974 publication, while Part 1 attends primarily to other components of resuscitation, such as the involvement and inclusion of particular organisations, professional groups and technologies necessary for a successful resuscitation system. Among these additional components, one finds information activities enmeshed. For the emergency system to work efficiently, systems for communication were needed. The emergency centres constituted the link between the bystanders and the professional community facilitated by telephone and radio technology (American Medical Association 1974, p. 840). Staff at the emergency centre needed special training in how to determine medical problems and in which questions to ask when answering emergency calls. The staff also needed guidelines in order to be able to determine the kind of care needed (ibid., pp. 839-840). The *American Heart Association* was given a central role in developing and revising not only the standards for basic and advanced life support, but also standards for training, training aids and material (ibid., p. 840). In the wake of the estblishment of the CPR guidelines a number of other standards and routine for emergecy communication emerged (ibid., pp. 839-840). The text also set out guidelines for how training was to be organised. Instructor-trainers and trainers from organisations such as the *American Red Cross*, *Scouts*, the Department of Defence, police, fire and rescue departments were to be educated and certified by the *American Heart Association*. These instructor-trainers and trainers would in turn train persons identified as being in positions that required basic life support skills (American Medical Association 1974, p. 840). The text thus illustrates how additional standardisation emerged around CPR as well as how informing activities and aids continued to be woven into the overall aspirations of continued improvement of lifesaving. Several things in the 1974 text about how training should be organised were not

new, but described procedures that already existed. Certain already existing components and routines were integrated across the 1974 standards or carried into the 1974 standard by already involved practitioners. Although medical knowledge about resuscitation had advanced, lay involvement and that of volunteer organisations continued to be important. The Red Cross is an example of one such organisation that has been organising first aid education in North America since before the First World War (Red Cross 2015). That this same organisation was involved in this kind of work also in Europe prior to the establishment of standardised CPR was illustrated by the story about the Niklassons that featured in the previous chapter. They are described as having been trained in a course organised by the *Red Cross*.

It is clear from the 1974 "Standards for Cardiopulmonary resuscitation (CPR) and Emergency Cardiac Care (ECC)" that resuscitation is about much more than a standardised procedure. In the version outlined in the publication, the standardised procedures are only one component of procedures that include further components of communication technologies, volunteer and expert organisations, and the lay public. The publication attends to how the skills described in the standards should be communicated to people, and how procedures for lifesaving are formed around the CPR standard. Some of these existed before CPR became the standard resuscitation technique, and several remain recognizable. In the following section I will describe how basic life support guidelines are circulated among three contemporary international and national actors involved in revising, updating and translating them so that they can be learnt by the lay public. Although it may appear contradictory, standardising can in this context be understood as a way of enabling change under controlled forms. I will subsequently turn my attention to aspects of engaging the lay public in resuscitative efforts through activities of creating and distributing information that reach beyond the control of the actors responsible for updating CPR guidelines.

The circulation of the CPR standard between expert resuscitation organisations

The CPR guidelines that are disseminated and taught to the lay public in Sweden today, and the ways in which interventions are organised, very much resemble those described in the 1974 publication. Just like them, the guidelines used today are revised and updated on a regular basis. Basic life support has thus, before reaching the hands of participants in local CPR classes, passed between a number of international organisations, committees and expert reports before reaching the *Swedish Resuscitation Council*, which translates the guidelines into Swedish and puts together educational programs for use in Sweden. The guidelines provided by the *Swedish Resuscitation Council* are those all organisers of bystander CPR classes in Sweden teach to their participants. This way of developing medical guidelines at consensus conferences and through the writing of consensus statements has become the conventional way for organisations within the healthcare area to develop standardised guidelines for various things and procedures (e.g. how medical devices should be used, criteria for treatments, how biological products are to be handled), and this is also how consensus about CPR guidelines is reached (Timmermans and Berg 2003, pp. 2-3). These activities are thus not unique to developing CPR guidelines, but a common feature of medical clinical and scientific practice in general. In the following section I will describe in greater detail how the standard is passed between these organisations before reaching local CPR classes.

The *International Liaison Committee on Resuscitation* (ILCOR) is an organisation formed in 1992 as an international forum for resuscitation organisations. ILCOR's work involves advancing research on resuscitation, disseminating information about resuscitation, enabling the collection, sharing and reviewing of scientific data about resuscitation, and also producing consensus statements about how to treat cardiac arrest (International Liaison Committee on Resuscitation, n. d.). Since 2000 ILCOR has evaluated research on resuscitation and CPR guidelines, both for out-of-hospital treatment and for medical professionals, every five years. (Nolan et al. 2010). In February 2010 ILCOR organised a consensus meet-

ing of 313 experts from 30 different countries. During the Consensus Conference held in Dallas in February 2010, the so-called "task forces" met on a daily basis to discuss the recommendations of experts in order to produce science consensus statements. This process encompassed six task forces working in six different areas, one of which was basic life support. The task forces, made up of experts in the field, evaluated research and evidence, compiled literature reviews, and drew up a science statement and recommendations for treatment. The consensus document that came out of this meeting was presented as resulting from "a truly international consensus process" (Nolan et al. 2010, p. e2).

Also in 2010, the *European Resuscitation Council* (ERC), which is one of the member organisations of ILCOR, met in Portugal for its quinquennial consensus meeting. The ERC is a non-profit organisation that was formed in 1988 by European cardiologists (European Resuscitation Council, n. d.a) and is guided by the mission statement: "To preserve human life by making quality resuscitation available to all" (European Resuscitation Council, n. d.b). Comparing this with the *Swedish Lifesaving Society*'s, mission statement from the first half of the 20th century, which was to "distribute knowledge about ways in which…the apparently drowned can be returned to life…" (Murray 1918, p. 3), clearly shows how information related activities of distribution and making resuscitation techniques have been central to both organisations. The wider distribution of resuscitation techniques and skills have been an intrinsic part of the work of involved organisations, although the ways in which the actual resuscitation techniques move between stakeholders is more formalized and internationalised today. In making resuscitation available, guidelines established at ERC's consensus meeting are passed on to the *Swedish Resuscitation Council* for distribution in Sweden. Both these organisations, the ERC and the *Swedish Resuscitation Council,* update guidelines according to the same 5-year cycle as ILCOR.

In November 2011 the *Swedish Resuscitation Council*, which is responsible for adapting and translating CPR guidelines into Swedish, held a conference in the city of Gothenburg. The ERC guidelines had by then been translated into Swedish. This conference, at which the updated guidelines, revised educational programs and recent research about CPR and cardiac

arrest were presented, was attended by cardiologists, nurses and CPR instructors from all parts of Sweden. The most recent expert knowledge on cardiac arrest and CPR was thus transformed into instructions for how to perform bystander CPR – the instructions that in bystander CPR classes are supposed become embodied know-how.

The changes to the bystander CPR standard, discussed during the meetings referred to above, concern the number of mouth-to-mouth ventilations and chest compressions, the frequency by which these are to be done, and their depth. Modifications were also made to the series of assessments that must be done before initiating CPR, to determine whether it is needed. Since the publication of the 1974 guidelines, defibrillation has been added to bystander CPR guidelines. Portable defibrillators for external defibrillation were developed in 1979 (Cooper, Cooper and Cooper 2006) and are found today in many public places in Sweden. This technology, initially a medical one, is now something the lay public is increasingly encouraged to learn how to use. Due to the development of defibrillation technology and portable defibrillators, this intervention has been added to the measures which can be performed by bystanders. Defibrillators can thus be described as a material element which has been added to the life-saving practice of resuscitation since 1974. Despite these changes, resuscitation still equals CPR, and the changes agreed on at consensus meetings concern CPR measures. I will not go further into medical practices here, nor into the development of medical scientific knowledge and the practices of consensus meetings, but merely observe that the changes made to the bystander CPR guidelines appear to be minor, relating to what a rescuer is meant to do, what participants in CPR classes learn and how CPR is performed.

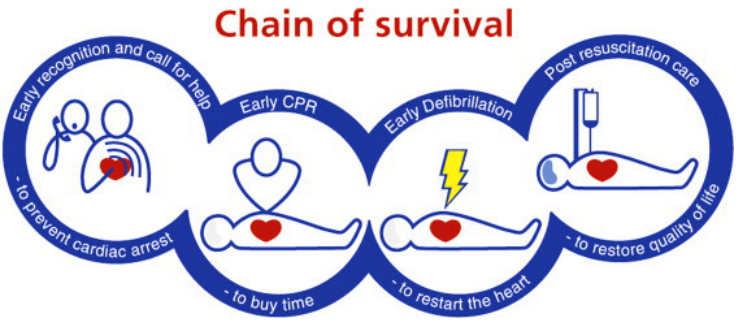
I have already mentioned that the distribution of information about how to resuscitate appears to be a central activity for the organisations involved. However, information is not only distributed but also actively created and organised, meaning that aspects of resuscitation can be both quantified and turned into formal representations (e.g., Star and Lampland 2009).

Resuscitation abstracted and quantified

The "Standards for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiac Care (ECC)" (American Medical Association 1974) can be said to describe a flow of skills, technologies and people systemized and coordinated by different forms of standards, or a particular configuration of resuscitation in which the skills of CPR, the idea that lives can be saved through the application of CPR, communications technologies, defibrillation technologies, professional resuscitation organisations and the lay public are linked to each other. According to Timmermans and Berg (2003), standardisation commonly leads to further standardisation. Here I will look into two particular forms of standards and standardisation associated with bystander CPR. First, a commonly found image outlining how resuscitative efforts should proceed, and second, how various aspects of CPR are currently documented and quantified in Sweden in different national registers.

The *Chain of Survival*

The procedures developed by experts at consensus conferences, and how these are connected to each other, are visualized in the *Chain of Survival* (see e.g., Cummins et al. 1991a).



6

6 Reprinted with the permission of the *Swedish Resuscitation Council*

This image comes with various graphics but is always schematic, illustrating procedures and not circumstances. The four links in the *Chain of Survival* illustrate four central activities: calling for help, initiating CPR as soon as possible, defibrillating, and post-resuscitation care. Of the links depicted, the first three can involve lay rescuers while medical professionals carry through the last link. The metaphor of a chain also clearly indicates the importance of each link. If one is missing the chain is broken. This is also why lay rescuers are considered such important components in resuscitation efforts – the stronger the chain, the better.

The image of the *Chain of Survival* clearly outlines the connections between different parts of a successful resuscitation procedure and can also be thought of as an abstraction of the know-how of resuscitative intervention. The image is a way of circulating these competences although it does not depict the measures of CPR in detail. It is a widely distributed and displayed image used to explain what resuscitation is. It is often included in instructional material, and was occasionally also shown to participants in CPR classes I attended. It can be found on resuscitation organisations' websites as well as in medical publication. *The Chain of Survival* is itself something of a standard, or what Star and Lampland (2009) have described as a formal representation, a universal model which, in addition to depicting the procedures of resuscitation, also shows how bystander CPR is linked to a larger and more comprehensive system of procedures. As such it has a very particular ability to travel between different groups. It works for several parties without loosing its particularity and can consequently be described as an informative boundary object (Star and Griesemer 1989).

The *Swedish Resuscitation Council*, the ERC and ILCOR can be said to circulate abstractions of the practical know-how of resuscitation. Although maintaining control over what is included in this practical know-how, they do not maintain control over all possible connections to other elements, such as those elements to which the guidelines may be linked when turned into a lifesaving practice for the lay public. The fact that bystander CPR guidelines are standardised makes the practical know-how of resuscitation rather stable. It should be noted that a resuscitative intervention may encompass other practical skills; specifically knowledge about how to handle other kinds of emergencies is useful in situations requiring resuscitation,

yet without passing through processes of abstraction and reversal, to use the terminology of Shove, Pantzar and Watson (2012).

The competences of resuscitation may be circulated in abstractions such as the *Chain of Survival*, but additional components are required in enactments of resuscitation. These other elements must not be circulated by resuscitation organisations and are not necessarily justified by strictly medical demands. One example of such material elements are information technologies. Changes in other areas of society than medicine also impact the ways in which the lay public participates in enactments of resuscitation. The possibilities for documentation and communication enabled and continuously expanded by digital information technologies are examples of such changes. How and in what form information is embedded when guidelines are enacted will also have repercussions for the reproduction and dynamics of enactments of resuscitation.

Registers

Just as with standardisation, what quantification does is often invisible and usually subordinate to the goals and purposes of the processes in which they figure (Star and Lampland 2009). Large-scale data on resuscitation treatments was in demand already in the 1920s, as one of the attendees at a resuscitation conference in Amsterdam in 1926 reported in the *Swedish Lifesaving Society's* yearbooks. At that time such data was in demand for the purpose of comparing the efficiency of the different resuscitation methods in use (Lindsjö 1927). In Sweden today, different types of CPR-related data are collected in three different national registers. In the national defibrillator register, anyone who has bought a defibrillator can register its location, and anyone in need of one can search the register to locate the nearest defibrillator (Sveriges hjärtstartarregister, n. d.). The number of attendees in bystander CPR classes is registered in the CPR training register. Here course organisers register the number of participants in their classes (HLR-rådets utbildningsregister, n. d.). The register was set up in 1983, the same year that a national educational CPR program was initiated in Sweden. The dissemination of resuscitation skills to the lay public had been going on since the early 20th century (see Chapter 3). The 1983 program

was organised according to principles and procedures similar to those introduced in "Standards for Cardiopulmonary resuscitation (CPR) and Emergency Cardiac Care (ECC)" (American Medical Association 1974), referred to earlier. Instructor-trainers were trained to train instructors which in turn trained rescuers, which included both the lay public and people with medical training. Organising the educational program in this way allowed for a large number of people to become skilled rescuers (Strömsöe 2013, p. 5). The numbers of lay rescuers, CPR instructors and instructor trainers are all documented in the CPR training register (ibid., p. 8). According to the data, 2 million participants had been trained by 2013 [7] (ibid., p. 33). It should be noted that this does not refer to two million different individuals. Still, the data show that there is a large number of people who have been trained to perform CPR, though it says little or nothing about their dedication, commitment or willingness to carry out these procedures.

The number of cardiac arrest events and their circumstances are documented in the CPR register. Medical professionals carry out this documentation, but yearly reports based on register data can be accessed and downloaded by anyone (Svenska Hjärt-Lungräddningsregistret 2014). Both in-hospital and out-of-hospital cardiac arrest events are documented in the national CPR register. The documentation of out-of-hospital cardiac arrest events (which are the ones lay rescuers attend to) goes back to 1990, while registration of in-hospital cardiac arrests began in 2005 (Herlitz, 2014, pp. 9-10). Among the things documented in the register are the location where the cardiac arrest occurred, whether there were any witnesses, if CPR was given before the arrival of the ambulance and if the casualty was also defibrillated, probable cause of the cardiac arrest, treatment given by paramedics as well as the response from the casualty, if any (Nationellt register för hjärtstopp utanför sjukhus 2009). The register categorizes cardiac arrests according to what can be described as a terminological classification of cardiac arrest events and their treatments. The registers enable the aggregation of data about cardiac arrest and CPR and the compilation of

7 This number does not represent 2 million unique individuals, as only the number of attendees is registered, without names or other identifiers.

statistics. Standards for categorising and documenting cardiac arrest and their treatments were drawn up at a meeting of some of the larger resuscitation organisations[8] in 1990 (Cummins et al. 1991b). The standard for reporting and documenting cardiac arrest events was to address a particular challenge: "[t]he nomenclature of cardiac arrest presents a classic problem in semantics – the same term has different meanings to different people" (ibid., pp. 960-961). Not only the resuscitation technique was standardised; descriptions of what CPR was to remedy were also rendered in a standardised vocabulary with the intention of improving the knowledge about CPR and cardiac arrest.

These kinds of documentation and registers have become a fairly established way of producing and compiling data about health and medical treatments. The Swedish CPR register is one of currently 81 national quality registers in Sweden set up with the intention of improving health care and advance education and research within the healthcare sector (Nationella kvalitetsregister, n. d.). Through the documentation in these registers data about certain aspects of resuscitation is produced. Allusions to these registers and the data that can be retrieved from them are often featured in the configuration of resuscitation, which will be described below. This makes certain aspects of resuscitation quantifiable, visible, searchable, accessible and, importantly, also enables certain links and exchanges between standards of different kinds. For instance, as we will see later on, data from the national CPR register are used in a *Mobile Lifesaver Project* in southern Sweden (Kongstad 2013, p. 2). The significance of lay participation is strengthened by means of register data.

Creating links and transforming resuscitation

The *Chain of Survival* is initiated by a phone call to the emergency services. The development of smart phones and their spread has enabled new ways of distributing information about CPR and of involving the lay public.

8 These were the *American Heart Association*, The *European Resuscitation Council*, the *Heart and Stroke Foundation of Canada* and the *Australian Resuscitation Council*.

The mobile phone can be conceptualised as an increasingly central material element in enactments of resuscitation. This section will describe how links between phones, rescuers, standards, data, casualties and CPR skills are created in one particular and contemporary configuration of resuscitation, the *Mobile Lifesaver Project*.

Mobile phones

The different ways in which mobile phones can be used in connection with cardiac arrest have been highlighted in a number of medical publications and projects (e.g., Kovic and Lulic 2011; Ringh 2011; Ringh et al. 2011). Two medical scholars have suggested that "modern mobile phones are no longer just ordinary phones, but should be considered as medical devices with great lifesaving potential" (Kovic and Lulic 2011, p. 778). The increased sales of smartphones in Sweden provided a basis for appropriating this already widely used technology to enhance lifesaving efforts.[9] There are plenty of applications with instructions for CPR that can be downloaded for free, and smartphones can be used for locating defibrillators on online maps. Whereas defibrillation technology was originally developed within a medical setting and is now becoming increasingly visible and commonly encountered in everyday life, mobile phones on the other hand, have moved in the opposite direction. They were already circulating extensively in everyday life and have recently become incorporated into lifesaving practice.

The *Mobile Lifesaver Project*[10] is one example of a project in Sweden in which this lifesaving potential of mobile phones is put to use. Anyone who has taken a CPR course, is at least 18 years old and has a smartphone, can sign up to become a mobile life saver. The service works like this: when a

9 This is not at all unique to Sweden, similar ideas and projects have been launched in other countries.

10 The Swedish name for this project and service is sms-livräddare. On the project's website (http://www.smslivraddare.se/english/) the English translation used is SMSlifesaver-project while Ringt et al. (2011) uses the term Mobile Lifesaver Service. I have chosen a mix of these two terms, the *Mobile Lifesaver Project* since sms is not the English term for text messeges and the term service is not used on the project's website.

possible cardiac arrest is reported to the emergency services, a text message is sent to volunteer rescuers who are near the location of the possible cardiac arrest (SMS-livräddare, n. d.). The *Mobile Lifesaver Project* localizes those that have signed up as mobile lifesavers through the global positioning system in their smartphones (Ringh 2011). Although an ambulance is sent to the location as well, the volunteer rescuer is expected to reach the location before the paramedics (SMS-livräddare, n. d.). This possibility of fast attendance to victims of cardiac arrest, albeit by a lay rescuer, is what makes this service so useful. Simulated trials were carried out in Stockholm in 2008, followed in 2010 by real-life studies (Ringh et al. 2011).

The *Mobile Lifesaver Project* links the emergency care system to the everyday life of potential lay rescuers by tying the use of smart phones to lifesaving. The notion that fast attendance is fundamental to increasing the chances of survival following a cardiac arrest is a central one for the project. Using the terminology of practice theory, this project can be said to transport the physical body of lay rescuers, seen as material in this case, to the locations where they, and the skills that they have, are needed. This service thus enables the bringing together of the elements required for a real life enactment of resuscitation at the particular location and time it is needed.

Telephones and telecommunications have featured in different ways in earlier configurations of resuscitation and lifesaving practices. In the 1974 publication of standards for CPR and cardiac emergency care, standards for emergency service operators to follow when responding to calls were required and intended to facilitate telephone communication. In the *Chain of Survival*, a phone call to the emergency services triggers the lifesaving efforts. In the *Mobile Lifesaver Project's* configuration of resuscitation, phones enable the bringing together of CPR-trained lay rescuers and possible cardiac arrest casualties. This project would not have been possible without the technological and infrastructural standards that allow the emergency services to bring the lay rescuers and casualties together. Currently there are around 12 000 registered text-message lifesavers in the Stockholm region (SMS-livräddare, n. d.) and there is also an interest in implementing the *Mobile Lifesaver Project* in other parts of Sweden. Thus, it can be said that the project favours the development of lifesaving procedures by facilitating the circulation of lay rescuers and by allowing for

increased involvement of lay rescuers in those procedures.

The following section will consider the specific enactment of the *Mobile Lifesaver Project* in discussions about implementing the project in the Swedish region of Skåne, based on descriptions in local news media and documentation about the project presented to the regional health care committee. In these descriptions several links to other standards, practices and values can be identified. This particular example serves to illustrate how links between elements are made and how standards are integrated across enactments of resuscitation.

Standards and data

In September 2013 a brief article was published in the south Swedish regional newspaper *Sydsvenska dagbladet* reporting on the decision by the regional health care committee of the county of Skåne to investigate the possibility of implementing the *Mobile Lifesaver Project* in the region. Despite its brevity, it mentions how similar projects in the Netherlands directed bystanders to defibrillators (Stadler 2013). This was not included in the trials carried out in Stockholm, but would be possible by connecting the service to the Swedish national defibrillator register. This would also involve connecting several different standards to each other. The defibrillator register shows the location of the defibrillators on an online map service that is integrated with the website. Maps can be said to constitute a standardised geographical representation, which most people are both familiar with and accustomed to using. This shows how the know-how of reading maps and using smartphones implicated in other practices and for different purposes are transferred to the lifesaving practice of resuscitation. The defibrillators are marked out on the map with the international and standardised sign for defibrillators. The exact address including floor, building, and the hours the location is accessible to the public are shown when the user clicks on the defibrillator symbol. Anyone can, by typing in an address, localize the nearest accessible defibrillator. A connection between this register and the *Mobile Lifesaver Project* means a second person can be sent to get a defibrillator. This shows firstly how new configurations of resuscitation can emerge through the transfers of competence elements

from other practices such as those of using phones and navigating online maps. Secondly it also demonstrates how the integration of these standards into practices alters what is seen as possible to achieve. In this case, connections between the Swedish defibrillator register and the *Mobile Lifesaver Service* are supposed to facilitate early defibrillation. Such changes occur although the resuscitation technique remains the same, namely CPR. Bowker and Star (1999) have pointed out that classifications and standards are artefacts that enable certain activities and understandings. Something very similar happens through the bringing together of various standards in the enactment of resuscitation in the *Mobile Lifesaver Project*.

In the documentation arguing in favour of implementing the *Mobile Lifesaver Project* in Skåne, and presented before the health and medical care committee, explicit reference was made to data from one of the other registers mentioned above, the CPR register. According to the documentation circulated before the meeting in September 2013 Sweden has, by international comparison, "…the best register on cardiac arrest in the form of a database" (Kongstad 2013, p. 2). From available register data it was possible to conclude that a successful resuscitation is very unlikely if more than 10 minutes have passed after a cardiac arrest without any resuscitation interventions being initiated. This was pointed out in the documentation circulated before the health and medical care committee (Kongstad 2013, p. 2). The *Mobile Lifesaver Project* can be said to expand the possibilities for action that lay rescuers have, by making it possible for them to intervene early in the lifesaving chain by bringing people, technologies and skills together in a new way. This enlargement of the space for intervention enabled by the *Mobile Lifesaver Project* is supported by register data underlining the importance of prompt attendance. The effects of the data that are produced about cardiac arrest are illustrated by the ways in which reference to them are embedded in the documentation circulated before the health and medical care committee of Skåne. In this way the project is also a good example of how different forms of standards and standardisation operate to distribute work (see Bowker and Star 1999).

Committed and caring citizens

In the documentation that was presented to the health care committee, links to elements of meaning are also made. Referring to the trials in Stockholm as promising, it also states that the project has not yet been fully evaluated regarding:

> …increased survival, cost effectiveness or risks for trained lay persons. However, preliminary results indicate that it is a well-functioning activity with several added benefits for society, such as an increased commitment among citizens to intervene in various illness-related incidents among their fellow citizens (Kongstad 2013, p. 3).

This description of the benefits of the *Mobile Lifesaver Project* highlights another implication of this service: how the interventions assigned to lay rescuers are associated with being a good citizen, committed to the community. The statement can be interpreted as saying that the *Mobile Lifesaver Project* enhances the responsibility placed on individual lay rescuers, in a way very similar to the form of governing conceptualised as governmentality (Foucault 1991). The quote describes a morally desirable conduct in making explicit connections between the *Mobile Lifesaver Project* and specific values of being a committed and caring citizen. The project also offers a way for people to act according to this desired conduct. This way of offering responsibility as a possibility to individuals shows how becoming a mobile lifesaver is softly embedded as caring for others; it does not discipline. The fact that the benefits of the text message chain in terms of increased survival have not yet been evaluated does not appear to be a problem. Other positive side effects have been identified, such as an increased commitment among those participating to intervene in cases of illness. Whether lives are saved or not, the project is worth investing in. The same documentation proceeds to comment on how the *Mobile Lifesaver Project* will benefit the population in all parts of the county of Skåne, both in densely populated and sparsely populated. The *Mobile Lifesaver Project* is said to provide "…possibilities for neighbours living on forested and agricultural land to get training and be able to help each other before

rescue services and ambulances arrive on the scene" (Kongstad 2013, p. 3). This statement shows very clearly how resuscitation is a matter of helping, which gives meaning to these efforts and activities, to lifesaving practices. The statement also shows how helping is something very specific, namely signing up as a mobile lifesaver and being prepared to perform CPR in any nearby situation any time it might be needed. How preparedness is not only about acquiring resuscitation skills but also about being available and localizable. This resembles some points made by Vicky Singleton (2005) in her investigation of a UK health policy document and one of its localized enactments, a citizen CPR training program. The health policy she studied offered new perspectives on lay involvement in health care by not only pointing to biomedicine as a means of improving health and well-being. It encouraged diversity and appeared to dislocate expertise and authority by advocating the distribution of responsibility, expertise, technologies and skills also among laypersons. However, the enactment of the health policy in the shape of a citizen CPR training program failed to live up to the promises of the health policy. Traditional boundaries between medical experts and laypersons were maintained, Singleton concludes. Death remained something to be treated medically, solutions were to be found in medicine, and community members merely carried out orders received from experts. Singleton (2005) concludes that despite the policy's perspective on a different kind of public health, the enactment of the policy in the citizen CPR training program remained faithful to bio-medical interventions and failed to renegotiate boundaries between medicine and laypersons. The enactment of the policy in the shape of the citizen CPR training program did however construe individuals as responsible by taking the time to learn CPR and responsibility for the lives of other community members (Singleton 2005). Similar tendencies can be identified in how bystander CPR class attendees are referred to in relation to the implementation of the *Mobile Lifesaver Project*. In the article published in *Sydsvenska dagbladet*, the chair of the health and medical care committee says,: "…after all, the reason for carrying out the program is a desire to help…" (Stadler 2013). This statement clearly illustrates an assumed causal relationship between taking a CPR class and being helpful, but takes the causal connection one step further by assuming that helping will be acted out by

taking part in the *Mobile Lifesaver Project*. The project is expected to cost a few million SEK every year in order to maintain necessary infrastructure and administration. "If just two or three people a year can get help this way, it will have been well worth the cost" (Stadler 2013) the chair says. The involvement of the lay public, on the other hand, is meant to be on a voluntary basis.

In April 2014 the health care committee of Skåne decided that its chair was to investigate further the possibilities of developing a national mobile lifesaver service in collaboration with other Swedish counties (Kongstad 2014). Although the outcomes of these discussions are not known at the time of writing, the configuration of resuscitation discerned in the discussion about the implementation of the *Mobile Lifesaver Project* in Skåne is illustrative of how links between diverse elements are made and how standards are integrated. In this configuration, links are made between the competence elements of the bystander CPR standard, the material elements of mobile phones, the mobile phone positioning system, and the bystander bodies, and the element of meaning of being a good neighbour and citizen. New connections and relations between the CPR standard, material arrangements and values enable new configurations of lifesaving. In the wake of all this plenty of other standards also set out boundaries for how lifesaving can be done. In contrast to the boundaries set out by the bystander CPR standard, those appearing when linked to other elements and additional standards expand the possibility for lay interventions. This enlarged scope for intervening, through for instance locating defibrillators and casualties which are not in the immediate vicinity, is also associated with certain values and meanings. The *Mobile Lifesaver Project* can, using the terminology of governmentality (Foucault 1991; Rose, O'Mally and Valverde 2006), be described as a way of conducting conduct in how the project seeks to shape neighbours into a particular kind of subjects – lay rescuers – by offering, not demanding, increased responsibility. I will return to how resuscitation practice shapes a particular kind of self-regulating subject in Chapter 6.

Thinking of the *Mobile Lifesaver Project* as a manifestation of bio-power, the way in which this project manages and administers life differs from how it was done in the work of the *Swedish Lifesaving Society* during the

first half of the 20th century. While the work of the Society was meant to benefit the Swedish nation, the Society also put very explicit pressure on public authorities to provide, through public means, possibilities for the population to learn how to save lives. In the *Mobile Lifesaver Project*, the state is not visible, but it is present. Public authorities do appear to be willing to pay for the infrastructure needed for the service, as the example about the discussion on implementing the *Mobile Lifesaver Project* in Skåne illustrated but lifesaving is not described as something that will secure the nation. If the state is less visible in this project then it was in the motivations articulated by the *Swedish Lifesaving Society* about spreading lifesaving skills to the larger populations, the expectations on individuals are more distinctively articulated. Comparing the configuration of resuscitation found in the writing of the *Swedish Lifesaving Society* with the one exemplified in the *Mobile Lifesaver Project*, both depend on the willingness of the lay public to engage in lifesaving and resuscitation. However, the *Mobile Lifesaver Project* offers increased possibilities for lay rescuers to intervene and also increased responsibility. This is enabled by the simplification of medical technologies and know-how and the incorporation of everyday life technologies into resuscitative interventions. Lay rescuers are expected to have practical skills about how to perform CPR and handle defibrillators; they are also supposed to be localizable and be led to occurrences of cardiac arrest to carry out these lifesaving measures.

Established standards and emerging procedures

The purpose of this chapter has been twofold; first, to demonstrate how procedures evolve and flourish around the bystander CPR guidelines and how lay rescuers are situated within a larger flow of actions aimed at saving lives, and second, to discuss how information is enmeshed in these configurations of resuscitation. I first accounted for the procedures of updating CPR guidelines and what kind of changes these allow for. These procedures can be described as regulating and controlling changes; they are quite standardised, and the changes made can be thought of as providing stability. I also introduced the actors that do this work and circulate resuscita-

tion standards. I then turned my attention to links between resuscitation practice and other practices that lead, in various ways, to the creation and distribution of information.

The bystander CPR standard was shown here to be part of a larger complex of configurations of people, knowledge, technologies and meanings. In these configurations I identified a number of nested and integrated standards in addition to that of the CPR guidelines. These various standards are not all equally dependent on one another, although some of them facilitate certain connections. The maps in the defibrillator register do not need to change when the CPR guidelines are updated by ERC, while the educational programs do need to be revised. Nor do the guidelines need revision as mobile phone technology develops, although the availability of this technology has enabled new links that lead to new procedures and consequently to new configurations of resuscitation. The registers mentioned can be said to make certain things about CPR and cardiac arrest visible, such as the impressive number of trained lay rescuers, the number of cardiac arrest events and the circumstances of their occurrences, and the location and accessibility of defibrillators. Bowker and Star (1999) have pointed out that standards and classifications make some knowledge visible, and in doing so conceal other things. In a similar manner, the registers can be said to enable certain kinds of knowledge and ways of knowing about CPR, while possibly also rendering other aspects of cardiac arrest and bystander CPR invisible. These registers make use of various standards, e.g. terminological standards for documenting resuscitation efforts and the outcome of cardiac arrest events, and maps and standardised symbols indicating the location of defibrillators. These standards do facilitate connections and enable order that would be difficult to imagine without these standardised components. Although standards do facilitate connections (e.g., Bowker and Star 1999), those circulating these standardised elements do not necessarily maintain control over how these are nested inside other standards or how routines are developed and emerge in their surrounding (e.g., Star and Lampland 2009). Despite the fact that the resuscitation method to be used by lay rescuers is made uniform and standardised, resuscitation continues to evolve in practice, as new links between the standard, artefacts, values and meanings are made in enact-

ments of lifesaving practices that guide the actions of lay rescuers.

In the *Mobile Lifesaver Project*, a specific configuration of resuscitation appears through links between what it means to be a good neighbour and citizen, the skills specified in the bystander CPR guidelines, smartphones, the emergency service system, technological standards such as the global positioning system and register data. By connecting smartphones, the practical know-how of bystander CPR and the emergency services it becomes possible to bring lay rescuers to occurrences of cardiac arrest events, and the resuscitation skills to the location where these are needed, before the ambulance arrives. What the project can also be said to accomplish is to bring resuscitation and the responsibility to resuscitate into the lives of the lay public by associating the everyday technology of smartphones with the idea that lives can be saved.

Despite all the formalization surrounding the development and updating of the guidelines, their realization and implementation in real life situations depend on the willingness of the lay public's participation – for them to situate and incorporate what the standard stipulates into their everyday life and to situate this in their environments and social practices. One means by which this is meant to happen is through bystander CPR classes, where the educational programs put together by the *Swedish Resuscitation Council* are meant to become embodied know-how; where abstractions of the know-how circulated in the form of educational material and the *Chain of Survival* are to be reversed. These classes provide the training required to sign up to become a mobile lifesaver. The educational programs for the lay public are often implemented by organisations that are not only interested in resuscitation, but also in humanitarian or work environmental issues, as the subsequent chapters will show.

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In the previous chapter I showed how training of the lay public was carried out by the *Swedish Lifeaving Society*. Their work and mission was linked to efforts to reduce deaths by drowning and to spreading swimming skills. I also showed how resuscitation techniques were promoted in conjunction with ideas about how this work was meant to benefit the progress of the

Swedish nation state. This chapter described how the standardised guidelines travel from international to national levels, from resuscitation expert organisation to those distributing the practical know-how of resuscitation to the lay public. It also showed how standards work as a means for compiling data about CPR and cardiac arrest, for distributing interventions, recruiting and keeping track of the number of lay rescuers. Behind the simple procedure of CPR, diverse standards and practices are intertwined.

In the following two chapters I will explore how training the lay public is embedded in other practices and contexts than those of swimming. In the next chapter I will focus on how the same guidelines, which in this chapter were described as circulating between resuscitation expert organisations, literally end up in the hands of the lay public as resuscitation is enacted in local bystander CPR classes.

5. In the hands of the lay public

"It's a good thing to have some acting talent", Karin says to the participants about putting together the measures and practicing the entire procedure of CPR in the class [OB 7]. By saying so she highlights that they are going to put on an act, not a real life event. Her comment also reminds us that the participants have a script to perform. There are rules for the scenario they are about to stage, and they have a limited set of props: mannequins, their own bodies as well as the bodies of the other participants. In the class certain things can be said and done, while others cannot. This chapter explores what these rules are. It focuses on the moment when the bystander CPR standard is literally handed over to the lay public; when participants, instructors, objects and activities meet and basic life support is enacted in classes. The purpose is thus to outline how the standardised guidelines end up in the hands of the lay public through enactments of the guidelines in bystander CPR classes and how information is enmeshed across these enactments.

The CPR classes are instances in which the CPR standard is enacted. Although these instances are exercises, they facilitate enactments of the standard nonetheless. Such exercises are actions or specific moments of doing in which links between the standard and other elements are established, moments in which different types of information can be discerned. Approached from a practice theory perspective, the enactment of resuscitation in classes is not exclusively made up of a standardised procedure, but configured as links between elements of materiality, competence and meaning are made (Shove, Pantzar and Watson 2012). What these elements are and how they are linked to each other in these enactments will be teased out and described as the chapter proceeds.

The routines of CPR classes will be described below; this includes how

the participants are introduced to the CPR guidelines and how they, together with the instructor, each other, and some specific artefacts are supposed to assimilate the guidelines into their bodies, to literally embody them, through a number of practical exercises. This occurs through various routine activities across which information is enmeshed in different ways. Resuscitation as it appears in this chapter differs from the configurations examined in the previous chapter, where I discussed how the bystander CPR standard was situated within a larger system of emergency care, and in the lives of the lay public through the *Mobile Lifesaver Project*. The measures that are discussed and performed in the classes are determined by the standard, but the situations and practices it is related to and interwoven with during classes are not. The CPR class has a storyline of its own. It has a beginning and an end, in a chronological sense, just like The *Chain of Survival*. Yet it is not a story about resuscitation in the same way as the *Chain of Survival* is. It is about transforming bystanders into competent rescuers.

That information sources and mediation of information encompass diverse artefacts and activities are circumstances which have been observed by others (e.g., Cox 2013; Haider 2011; Veinot 2007). The understanding of information as something that can be transmitted between a sender and receiver without being affected by its surroundings has been widely criticized and problematised (e.g., Brown and Duguid 2000; Day 2000; Wyatt, Roma and Harris 2008). Johanna Rivano Eckerdal summarizes this criticism in the following way:

> …information sources are not buckets filled with facts, information interactions are not instances of transmissions of words and information mediators are not neutral but mediate information in certain ways and they may also become important information sources in themselves. (Rivano Eckerdal 2012, p. 296)

In order to avoid risks of simplification and instead highlight situational aspects of how sources of information feature in CPR classes, I will draw here on the conceptualisation of information as being of different modalities introduced by Lloyd (2007; 2009a). I have made some modifications

to the terminology; these were presented in Chapter 2. By drawing on the notions of instrumental, social and corporeal modalities of information, this chapter will make visible how, and in what ways, information is enmeshed across the activities in CPR classes.

The chapter will proceed as follows. I will first introduce the settings and the organisations where the observations were done. This will be followed by a general description of the different ways in which the standardised guidelines are presented and encountered in CPR classes. By using the terminology of modalities of information here I do not mean to say that the different modalities of information follow upon each other in any particular order; instead, the description is general and schematic. The third section will focus on how the standard is made to become direct physical know-how, how it is literally embodied in classes: how this is done in activities and then talked about. I will then turn my attention to the acts of talking and reflecting about the procedures which add familiarity to the instrumental guidelines and the competences they delineate, and how certain meanings are attached and connected to the knowledge participants are supposed to incorporate as know-how into their bodies as the classes progress.

The settings

The classes at the volunteer organisation take place at the organisation's office, a space including both educational rooms and offices for those working there. The organisation's involvement in different kinds of aid, social and humanitarian relief is noticeable from posters and images on the walls illustrating their work. One of the walls inside the office next to the entrance is covered by a large world map, making visitors aware of the organisation's global engagement. The instructors, Lena and Paula, wear shirts with the organisation's logo and name, and trousers with many conveniently placed pockets in which phones and bandages can be kept and quickly pulled out in order to simulate an emergency call or the application of a pressure bandage on a bleeding wound.

The rooms where the first aid and CPR classes take place are furnished in a classroom-like manner, with a whiteboard at the front and desks lined

up with chairs facing the whiteboard. For the CPR and first aid classes, the desks have been pushed to the side, placed around the walls providing floor space for the practical exercises. Mannequins, disinfectants, swabs, bandages and blankets are spread over the desks. The objects used in class are dummies, and not things what would be used in real emergencies. Bystander CPR is still regarded as something easy to do, which does not require any particular aids. Lena says "your average person in the street only brings the clothes on their back and their knowledge", [OB 13] signalling no special instruments are needed to intervene – knowledge is sufficient, and the helper can use his/her own clothing to keep the casualty warm. Chairs for the participants to sit on are placed in a semicircle facing the whiteboard, on which the instructor occasionally writes a few key words relating to the exercises.

The occupational health service is located in an office building with only a sign at the entrance to indicate that the activities going on there have to do with health. Their work centres on work-related health issues and their services are exclusively directed at the employees of the specific organisation the occupational health service is to serve. They have ergonomists and psychologies that provide counselling. Their staff also do work-related risk analyses and organise courses and seminars on health-related topics for the organisations' employees. They work preventively and with rehabilitation, but they do not treat acute medical conditions.

The CPR instructors at the occupational health service are trained nurses, which they tell the participants when introducing themselves. Elisabeth often says, when introducing herself, that she used to work in a cardiac clinic and that she often saw the benefits of CPR and bystander CPR education there [OB 9; OB 6]. By saying so, she underlines the overall benefit that these classes bring. Elisabeth does not explain in any further detail, but the statement, her professional identity and her work experience instil confidence and trust that what she will be teaching can make a difference. It tells the participants about the difference that knowing CPR can make. The nurses at the occupational health service are casually dressed and do not carry any emblems or have with them tools that give away their professional identity. In the classroom, instructors have placed posters illustrating the procedures of CPR on the whiteboard. These depict procedures

for choking relief and how the position of the head impacts the casualty's airways. Smaller mannequins and a defibrillator are placed on a table to one side of the room, together with hygienic plastic masks which are meant to be placed over the mannequins' mouths when practicing mouth-to-mouth ventilation, in order to minimize any risk of transmission of infection. On the same table are also swabs, certificates awarded to participants when training is complete, and notes that Karin and Elisabeth return to every now and then during their classes, to make sure they have talked about the things they had planned. Anne, the name given to the larger mannequin used in CPR exercises, is already lying on the floor in the middle of the room as the participants enter. At the occupational health service, just like at the volunteer organisation, chairs, for participants to sit on, are placed in a semicircle facing the whiteboard.

The layout and content of the classrooms are similar. The material arrangements of the locations and the organisations' agendas also associate classes with principles of humanitarianism and occupational health and safety. During classes in these locations, links between elements of meaning, materiality and competences are made, and when basic life support is enacted it is as more than a standardised script. The following section will describe how the standardised guidelines are typically introduced by instructors and encountered by participants.

The routines of the CPR class

The typical CPR class begins with a brief introduction of all the procedures that participants will learn. At a minimum, the procedures taught in the classes I attended were those of basic life support. This script consists of a series of assessments; checking response, establishing if airways are free and identifying signs of breathing. It also includes chest compressions and mouth-to-mouth ventilation, which shall be carried out when no response or sign of breathing can be established, in other words, when cardiac arrest is suspected. When breathing can be established, the casualty is to be placed in what is called the recovery position. How this is done correctly is also always demonstrated and practiced in classes. In addition to these measures, the basic life support script also includes methods for choking

relief. This too is showed and rehearsed in classes, but the time dedicated to this is considerably shorter than that devoted to CPR exercises.

As Elisabeth introduces participants to what they will learn, it is already clear that this is a situation whose main focus is on the imparting of information. She asks the participants: "Do you know what CPR means?" [OB 17] The participants mumble and Elisabeth continues:

> Well, that can't be taken for granted – it means cardiopulmonary resuscitation. So you look to check, you see the poster here, is [the person] awake? Is it someone who has collapsed, or are they lying down, [is the person] unconscious? Is the person awake? Is the person breathing? [OB 17]

Elisabeth accounts in an instrumental manner for the assessments that need to be carried out in order to determine whether CPR must be performed. She continues by saying: "checking that on the mannequin is more or less meaningless" [OB 17]. The mannequin will not respond and practicing these routines on mannequins will thus not provide the kind of sensory information that doing the exercises on a real person would yield. Elisabeth says they will do these controls on each other later in the class and briefly explains how they are done:

> That is, you place your cheek [over the casualty's mouth]to hear if the person is breathing. The new thing in this is that checking the pulse has been removed. It is known to be difficult in this kind of stressful situation. [OB 17]

Just like the vault inspector in Veinot's (2007) study evaluated the state of vaults based on the sensation of heat, CPR class participants are to use their senses to assess the state of what could be a cardiac arrest casualty. They are only to do what is stipulated in the guidelines, meaning they will not check the pulse since that was removed from the assessments to be done prior to initiating CPR in the last update, as Elisabeth mentions.

The sequence above illustrates the normal way that both Karin and Elisabeth introduce the measures. They begin by talking through the procedures while pointing at the images depicting them on the posters stuck

to the whiteboard. The steps in the guidelines are depicted one by one, describing what to do and in which order to carry out the different measures. The images display a rational, goal-oriented procedure, an intervention. The order in which the different parts are meant to be performed is clear. The explanations and descriptions are instrumental and procedural, both on the poster and as Karin and Elisabeth retell what it depicts. They describe what to do and how. The information accessed and mediated in introductions such as these recalls what Lloyd describes as epistemic modalities of information: abstract and generalizable information (Lloyd 2007; 2009a). This information can also, in a practice theoretical terminology, be conceptualised as abstractions of the know-how of resuscitation, reversed into practical know-how in exercises (Shove, Pantzar and Watson 2012, pp. 48-49). The posters and images contain little text; together with the verbal general introduction of the measures provided by instructors, they introduce participants to the procedures they are about to learn and familiarize participants with what they are about to do. The form of information that I, in a modification of Lloyd's (2007; 2009a) terminology of information modalities presented in the second chapter, referred to as the instrumental modality of information makes participants acquainted with what they are about to learn and embody as the class proceeds. This kind of general information can be expressed in images, in text or mediated verbally. Introductions may also include information in the shape of what Star and Lampland (2009) have called formal representation, in this context, images such as the *Chain of Survival* which was introduced in the previous chapter.

Lena, at the volunteer organisation, begins her class by showing precisely that image to the participants [OB 15]. The *Chain of Survival* is general, instrumental and procedural, a formal representation of a specified know-how. The know-how participants are meant to acquire is here situated in a universal and general model, an abstraction of how the treatment of cardiac arrest is handled according to medical practice. In the image, the measures are performed by anonymous figures. It is instrumental. The guidelines are not yet situated in particular circumstances or familiar settings, but will shortly be inserted into such settings.

Introductions are followed by demonstrations of the measures and pro-

cedures, practical exercises during which participants also have opportunities to observe each other and the instructor as the measures are being performed. The sequence of assessments, mouth-to-mouth ventilation, chest compressions, defibrillation and recovery position are commonly broken down into separate units and often practiced one at a time before being put together into the right order again. Demonstrations may also encompass measures executed both correctly and incorrectly, in order to demonstrate the difference this makes, as illustrated in the following example. Karin demonstrates compressions on a mannequin, she first performs them the way they are supposed to be done, on the right part of the torso and with the right speed, and the mannequin responds with a clicking sound. After that, she places her hands on the wrong part of the mannequin's torso, and the mannequin does not click. Then her hands are back on the right part of the torso again, but this time the mannequin does not click because she has not applied sufficient pressure [OB 7]. Compressions will only have an effect if they are done in a specific way. The participants practice and watch each other doing the practical exercises. Watching others attempting to carry out the required action and to see them fail is part of the practicing exercises, this way observing how others do the work of literally embodying information has informative value. On another occasion, when Karin has shown how to check breathing on one of the mannequins, although the mannequin will obviously never breathe, she tells participants that they are to see and sense breathing: "those are your instruments" [OB 10]. The participants' instruments are their own senses. What they are ultimately meant to incorporate is also to be used on other bodies and the conceptions about what these bodies may be like recur in conversation and discussions. This will be further discussed later in this chapter.

Through exercises, participants are to learn how to use their own senses for determining the state of casualties, using their eyes and ears to identify breathing, and their own bodies – their mouth and breath, their physical strength, hands and arms – to perform chest compressions and ventilations. Information accessed, mediated and used in these ways, can be described as corporeal information, or information conditioned by the situation, which becomes accessible and used in the interaction between bod-

ies and the physical environment, through activities involving artefacts, bodies and participants' own senses (see also Lloyd 2007; 2009a; Veinot 2007). In the activities aimed at achieving incorporation or embodying of know-how which is here about being able to perform the measures in an instrumental manner, other kinds of bodies are used, those of mannequins as well as other participants' bodies. The exercises enable bystander CPR class participants, just like the informants in Lloyd's (2007; 2009a) study, to access and use a corporeal modality of information. Such exercises convey and produce know-how that cannot be gained through engaging with information of the instrumental modality.

Participants also talk about and reflect on what they are doing. Discussions relate to many more aspects of resuscitation than just the measures included in the standard. What can be conceptualised as a social modality of information (Lloyd 2007; 2009a) is also, which will be shown and exemplified further on in this chapter, important for distributing and establishing shared values associated the activities going on in classes and the events in which the skills gained are intended to be used. Clusters of information that can be conceptualised as being in different modalities do not follow upon each other in any specific order: instrumental, corporeal and social modalities co-exist and are applied interchangeably as procedures are repeated and discussed and as exercises progress.

The basic life support measures are repeated over and over again during classes. Participants listen to the instructor, watch the instructor demonstrating the practical exercises for the different measures, and then they practice themselves, watch each other carry out the procedures and also talk about what they are doing. The measures are the same, but mediated and demonstrated in different ways. Karin explains to me that the knowledge is supposed to "be drilled from different angles" [OB 2]. On another occasion she tells the participants she is aware she might seem a bit of a nag, repeating everything so many times, she says it is about "memorizing" [OB 5], "you have to repeat it until it sticks" [OB 7]. What is being repeated are the basic life support measures, but the ways in which they are repeated vary. Apart from occasional films and the more commonly displayed poster and images that describe how to perform CPR, a good part of the classes are used by the instructor to explain the procedures by

demonstrating the measures on mannequins, some of them on participants – occasionally even by using their own bodies – and finally, by letting participants do the exercises themselves.

The helping body

CPR classes are conceptualised here as moments in which resuscitation is enacted, in which abstractions of the practical know-how of resuscitation are to be reversed, and instances in which links to elements of meaning and materiality are made (Shove, Pantzar and Watson 2012). Classes are also moments in which information is created, negotiated and made sense of.

The practical exercises are intended to provide participants with some physical experiences of performing CPR and in doing so literally incorporate the measures into their bodies. It appears to be the commonly shared understanding that it is as an embodied kind of know-how that the guidelines are most useful. IP 6 verbalizes this understanding, which permeates how the classes are organised, as she explains to me during an interview how she thinks the practical exercises provide her with a knowledge that differs from what can be gained by reading instructions for the same procedures:

> IP 6: I want the knowledge to stick. You can read that it is, that it is 30 chest compressions and 2 mouth-to-mouth ventilations for example. But I think that in an acute situation maybe I start to hesitate, was it 30 chest compressions and 2 mouth-to-mouth ventilations or was it 15 compressions and 2 ventilations? But now, by doing these exercises in the class it sticks. That memory is in the body. Now I do not need to reflect. The knowledge is not only theoretical now I have the practical knowledge as well.

Lloyd (2009a) described the role of the corporeal modality of information for the ambulance officers in her study as enabling their bodies to act, to perform certain procedures without engaging the mind. Physical exercises are a matter of making the body do what instructions stipulate without

having to think, and in the very moment of action make evaluations and assessments based on information mediated by the senses (ibid.). Something very similar is meant to occur in the CPR classes: the instrumental guidelines are supposed to become incorporated into participants' bodies as practical exercises are done. Embodiment, as it is described by IP 6, appears to be about the disconnection of the mind and the automatization of the body, almost as the opposite of having to think. Practical exercises are meant to make the measures automatic, disconnect the mind and turn bodies into instruments for resuscitation. However, the knowledge does not always become incorporated into the body, and is not always so easily automatized, as the vignette introducing the subsequent section will illustrate.

Turning bodies into instruments for resuscitation

At the end of the first aid class at the volunteer organisation, participants devise more elaborate scenarios. This is the point at which all the different measures and skills culminate in one large simulated accident that provides opportunities for the participants to test their newly learned skills. Divided into three groups, they take turns in playing the role of casualties, helpers and observers. Each scenario is followed by a discussion and evaluation of how the casualties felt about the aid they received and about the choices and decisions made by the helpers. Among the injuries in the scenarios are bleeding wounds, broken bones, cardiac arrest, shock and choking. The scenario preceding the following remarks was of an accident in which the roof of a building had fallen in. At the time of this occurrence, according to the scenario, participant 1 had been inside the building eating an apple. Participant 2, assigned the role of rescuer, was meant to apply measures he had learnt during the class.

Paula: And you had choked on something?

Participant 1: yes

Paula: Did you receive help?

Participant 2: At least I tried, I understood what the problem was

Participant 1: Yes, I tried to do…I panicked and moved my arms at the same time so maybe it was difficult to hold on to me at the same time

Participant 2: Yes, well, I knew I should try to get it out, to get what was in your throat out. At least that was what I tried to do. I understood what needed to be done.

Paula: [did you give him] five blows to his back?

Participant 2: I probably did not do that, no, no, I started to grab him[11]. I will think about that, five blows to the back, no…

Paula: Always five blows first

Participant 2: Yes, I had actually read about that before but I forgot

Paula: It's good that you do something and don't just stand there

Participant 2: No, I tried…

Paula: you didn't just stand there, you did something

Participant 2: I did something, yes

Paula: That's good

Participant 2: You should give blows to the back first, yes.

Paula: It's good that you do something, and don't just stand there

Participant 2: The important thing is that I do something and not just…

Participant 3: You got [the piece of apple] out!

---

11 Participant 2 describes how he tried to perform Heimlich Manoeuvre in order to get the piece of apple out, while what he was to do if he were to follow the guidelines was to first give Participant 1 five blows to the back only proceed with Heimlich Manoeuvre if that did not have any effect.

[Laughter]

Participant 2: The important thing is that you accomplish something, the worst is if you stand there paralyzed without doing anything

Paula: Yes

Participant 2: That's the worst, that's how it is… [OB 23]

In the discussion quoted above, participant 2's actions are evaluated and scrutinized. What did he do? In the first half of the quote it is established that he actually did not do what he was supposed to. At the crucial moment he simply forgot the correct procedure; the skills had apparently not been automatized. He did, however, do something – which is also emphasised by the instructor, Paula, in the second half of the quote. Other aspects than the actual measures are talked about. What is happening in this part of the quote can be described as participants engaging with the social modality of information together with Paula. Participant 2 did not comply or follow instructions, but he did conform to certain values. In the quote, his initial self-criticism is transformed into affirmations to the contrary. Although he performed the measures in an inappropriate way, what he did was nonetheless very good. I will return to this kind of negotiation later in this chapter. What this example illustrates is how the measures fail to become assimilated into the body and to be converted into correctly executed procedures despite the common understanding that in class participants should end up doing precisely that.

Practical repetitions are supposed to enable individuals to literally maintain the knowledge in their bodies. It has been acknowledged, however, that it is difficult to do and that often embodied knowledge does not remain in the body forever and that repetition is needed (HLR-rådet, n. d.). Therefore instructors often encourage participants to attend classes with some regularity. The *Swedish Resuscitation Council* recommends yearly repetition for lay rescuers (HLR-rådet, n. d.). Some CPR class organisers provide specific occasions for repetition, but if more than a few years have passed since the introductory CPR class was taken, it is common to start from the beginning and attend an introductory class again. Consequently

many of those participating in the classes I observed had attended similar classes earlier, and had previous experience of the procedures, albeit with small differences. Many participants are aware that the procedures they learn will be slightly altered over time. IP 3 said: "I knew that they had changed details, how many compressions you have to do for example, these have doubled since I took [the class previously]. But it was the same kind of mannequin and stuff, so I recognized it." Despite the changes to the CPR guidelines, the classroom situation and the CPR measures were recognisable to IP 3. The changes of the guidelines are referred to by IP 3 as "details". These are the changes that the various responsible international organisations presented in the previous chapter agreed on after reviewing and evaluating research and clinical experiences. Participants generally know that the guidelines are updated regularly, and this does not seem to cause them any trouble or surprise. The fact that the guidelines are updated does not appear to be the reason people attend classes again. Rather, repetition seems to be motivated by the way in which this knowledge as an embodied kind of knowledge is also framed as short-lived.

A little later in the interview, IP3 returns to differences between the current class and the one she had taken before:

> IP3: The difference compared to the previous occasion…when I took the class at [another organisation] a long, long, long time ago, then [the mannequin] was connected to a machine and a printer and you were not allowed to leave the class until you had done compressions according to the accurate pace, and then you received a little printout.
>
> K: ok
>
> IP3: You know, here it felt like, now I've done this a little. Ah, that looks good, the instructor said and then that was that.

IP 3 laughs as she relates how the instructor evaluated her performance and appears to be a bit sceptical in regard to how the evaluation was done, perhaps finding that the printers and receipts used before were more trustworthy than the instructor's remark based on observing performance. According to class guidelines, both instructors and participants are supposed to use their own senses to evaluate performance. The evaluations can be

described as being done by engaging with the corporeal modality of information, only accessible at the moment of performance.

Sensing the sick body

The skills participants acquire are meant to be used in the treatment of acutely ill people. What such bodies are like and how they respond is rather difficult to simulate in class, but it can be described and discussed. In classes mannequins play the role of the casualty. These mannequins provide some access to what can be described as the corporeal modality of information, even though the exercises differ from real life incidents. How the corporeal modality of information is used and engaged with in participants' evaluations of their own performances can be exemplified by how accurately performed chest compressions on mannequins used in classes are confirmed with a clicking sound coming from the mannequins' chests. The clicking sound provides immediate feedback on accurately performed chest compressions. The absence of clicking can cause frustration and make participants think their execution is incorrect. On one such occasion, Elisabeth helps a frustrated participant, she modifies his grip and his position, but the mannequin still does not click. She goes on to inspect the mannequin on which the man is practicing. Could there be something wrong with it? She tries it herself and confirms that it works in the way is should. It clicks. The man tries again but it still does not click. The absence of the sound does not necessarily mean the compressions were performed incorrectly, however. On this particular occasion, Elisabeth made the following remarks regarding the evaluation of performances:

> Elisabeth: It's a feeling. Before, I think some of you remember the devices attached to the mannequins…these are now gone. We used to have devices that showed if we ventilated sufficiently. This was actually only for us instructors but those attending the class they thought oh, my God; I can't do this because there was a red or yellow light. It was just stressful. Therefore this [device] has been removed. Now you have to listen or sense. We have possibilities to train here and get it more or less right. We have to sense how air enters the lungs, that there is no resistance. Because, in real

life, there are no lights, right? [OB 18]

Feedback, or response of some sort, is sought in the exercises. The feedback can be a feeling or a sound, a bodily or sensory response and experience. On this particular occasion, there was no reassuring sound confirming that exercises had been correctly carried out. Instead, Elisabeth suggests the feedback can be a sensory perception, experiencing the tactility of doing the compressions. Participants are meant to confirm that the measures have been done correctly by using their own body and senses in order to evaluate their own performance (see also Lloyd 2007; 2009a; Veinot 2007). Through exercises, participants should gain the skills needed to make such evaluations. Feedback occurs at the moment of participants' bodily performance. It is immediate and limited to the moment of doing, no matter whether it is a clicking sound, a light or a sensation. The exercises in class are meant to provide access to corporeal information. This example illustrates the difference between instrumental and corporeal information: although both seek to inform about the same practical know-how, the sensory experience and the practical skills of making evaluations cannot be gained from interacting with instrumental instructions only. Although they describe what to do and how, they do not enable acquisition of the practical skills of evaluating one's own performance.

Although they are not present "in the flesh", sick bodies are omnipresent in the discussions about blood and vomit, fears of causing additional injury to the casualty, talk of what the affected person may look like, how someone's size or age might matter, or aspects pertaining to the locations in which a possible cardiac arrest casualty can be encountered. Other worries concern what is supposed to be done if the casualty regains consciousness and, of course, if he/she does not, and so forth. There is a clear discrepancy between the exercises and how the real life encounter with a possible cardiac arrest casualty is imagined. The last quote above ended with Elisabeth concluding: "Because, in real life, [there are] no lights, right?" [OB 18]. Sick bodies are not connected to any lights, nor do sick bodies respond with clicking sounds as compressions are correctly applied, which makes the need to be able to evaluate one's own performance by

using one's own senses all the more urgent. When participants are introduced to the guidelines, they are introduced to instrumental procedures, to ideals. These ideals can also be said to permeate practical exercises although they do provide access to the kind of information that can be summarized as being of the corporeal modality. In the exercises, mannequins are always on the floor, lying on their backs, and do not need to be moved in order to be able to perform CPR. The mannequin body differs from human sick bodies. In Lloyd's (2007; 2009) studies of the training of ambulance officers, simulations with mannequins were also used. As trainees entered into workplaces and were confronted with real life situations these did not match the simulations. In the CPR classes there are no real emergencies or instances of cardiac arrest events, no real hazards, no sick bodies, and there are no body fluids such as blood, vomit or saliva, which may be present in real life events. Paula touches upon this and has suggestions for how participants can prepare for the messy reality of cardiac arrest.

> Paula: I have one of these, it's called a CPR breathing barrier and is always good to carry, it costs 25 or 30 [SEK]…it's called a CPR breathing barrier and you place it over the casualty's mouth and begin to ventilate. The casualty may be someone you don't know and there may be vomit, blood and all that, making you scared and you think, no, I'll go home, someone else has to do this [Paula laughs and so do the participants]. And then what happens? Then come feelings of guilt – I could have saved the life of that person, so why didn't I help that person then? If you are that terrified and absolutely cannot do ventilations, then do compressions instead. But if you have the [CPR breathing barrier] you will not be afraid.
>
> Participant: Like, can you use your sweater?
>
> Paula: Yes, that works as well, exactly, yes. [OB 23]

Although no vomit or blood appears in the practical exercises during CPR class, they are often talked about. The reality of cardiac arrest is a lot messier than the exercises suggest. Still, in class the abstracted guidelines are reversed and supposed to become situated and incorporated in the partic-

ipants' bodies, to be turned, in other words, into embodied know-how. Even if exercises cannot simulate real life situations, they do provide opportunities for participants to gain some experience of how to assess the situations with their senses, and what it feels like to perform CPR. In the discussions that also occur during classes, CPR skills that participants acquire also become situated in familiar circumstances, and, as in the excerpt above, connected to the feelings of the rescuer. This will be addressed in the remaining part of this chapter and also followed up in the subsequent one.

Rescue stories

In addition to carrying out practical exercises, participants and instructors also talk a lot. When doing so they reflect upon what they do. These activities take the form of asking questions, sharing personal experiences, personally experienced emergencies, recounting other people's experiences, as well as reflections revolving around one's own insecurities, possible insufficiency as a helper and worries about not being able to do the right things in a real emergency situation. This shaping and situating of information through talking or social interaction has also been observed in previous studies (see e.g., Lundh, Francke and Sundin 2015; McKenzie 2004; Rivano Eckerdal 2012). The discussion and reflection in CPR classes resemble ways of engaging with information that Lloyd (2007; 2009a) has conceptualised as the social modality of information, e.g. how acts of storytelling, interpreting and deconstructing past events mediate information. Through activities of this kind, participants develop a shared understanding of the practice in which they are engaging (see also Lloyd 2007).

Stories of hope

After demonstrating how to perform CPR, Paula says that if you find yourself in a situation where you have to carry out the measures it is important to continue alternating chest compressions with mouth-to-mouth ventilation, without interruption, until paramedics arrive:

> Paula: You are not supposed to make any pauses between compressions and mouth-to-mouth ventilations. Keep it up, keep it up, don't give up hope! We do this even though we never know if we'll be able to save someone's life or not. But you will have done your best…Maybe that person had a heart disease or something like that, and you could not save their life. But you still do your best in a situation like that. Any questions about this? [OB 23]

There are usually many questions and comments following demonstrations, and that was the case also on this occasion. What if the person receiving CPR responds? a participant asks. Paula replies that it rarely happens, but goes on to tell the group about one occasion when the casualty did regain consciousness. As Paula tells it, this person said that he felt fine and wanted to carry on with what he had been doing before, which was participating in a running competition. The procedures are now linked to a specific situation – the story of the runner illustrates what can happen, even though such happy events are rare. One of the participants questions Paula's story by saying "but that almost never happens, if I understood what you said, that you can rarely make the heart beat again" [OB 23]. Paula responds by telling another story about a resuscitation that did not seem to be working, but then did so because of the rescuer's persistence: while a group of colleagues were playing basketball (or some other sport, Paula can't quite remember) with their manager, the manager collapsed. The colleagues began CPR and called the emergency service. As it happened, a television team filming a program about paramedics' work accompanied the ambulance that arrived. Paula had apparently seen the program when it was broadcast and learned about the events that way. She says that as they filmed, several shocks were given with the defibrillator but cardiac activity did not resume. After thirteen or fourteen minutes without any result, the paramedics said that it was no use to continue. But one of the rescuers decided to continue anyway. After an additional two to three minutes the man revived, Paula says, and without any serious damage. After this experience, the manager had begun visiting sports centres to tell them they needed to have defibrillators. "So you can always save lives, you never know, you shouldn't give up hope", [OB 23] Paula concludes.

In order to illustrate that there is hope of returning a casualty to life, instructors and participants engage with a form of social information. This information is not about absolute truths or medical evidence of the effectiveness of CPR. They are about familiar situations and familiar locations, about co-workers, managers and people doing physical exercises, about workplaces and sports centres, about values and morals. The story that Paula tells above is from a television program about paramedics' work, and is part of a narrative about their work practice. Circulated by television and picked up by Paula, the story is now linked to the activites in the class and imparts the undestanding that if you have CPR skills you can make a difference. Regarding the stories told by Paula, it should also be pointed out that they do not describe any of the medical circumstances involved. These are unknown, and Paula is not sure about other details of the story either, such as what sport they were playing. The message of the story is very clear, however. One should not give up hope. The outcome cannot be determined in advance. Telling stories and anecdotes like the ones above is a matter of imparting the belief among participants that knowing CPR can make a difference; the stories impart hope. This is done not by presenting evidence, but by telling stories with familiar elements sufficiently vague to allow most people to identify with the particularities. When Paula tells these stories, she links the knowledge the classes are meant to impart to notions of hope and to the belief that one can make a difference. As stories are told, the competences of the bystander CPR standard are connected to elements of meaning.

Paula's stories describe past occurrences. The examples accounted for above are, however, not analysed or deconstructed in the way that stories of past occurrences and events were at the training centre for ambulance officers studied by Lloyd (2009a, p. 402). It has been pointed out by others that information is shaped and negotiated in conversations between involved parties, that information can be embedded in stories or in the retelling of other people's experiences (e.g., McKenzie 2004; Rivano Eckerdal 2011). Narrative interviews that encourage storytelling have been shown to be very useful for gaining insights into everyday life experiences (Bates 2004). In this study, storytelling is not a research method but something that can be understood as a means for circulating ideas about how

participants in classes should act in the event of encountering cardiac arrest. In the terminology of practice theory, the stories both circulate elements of meaning, and link these to the competences of CPR that participants can perform with their own bodies. The stories Paula tells are future oriented. I will shortly explain how.

To complement the notion of the social modality of information and capture the future oriented character of the stories told in classes, I find the conceptualisation of instrumental and moral narratives as outlined by ethnologist Kristofer Hansson (2007) useful, in that these together illustrate contrasts and differences in how information about CPR is shaped and mediated. In Hansson's research of young asthmatics, these are used to distinguish two kinds of narratives that evolve between patients and medical workers in counselling meetings. This distinction draws on the differentiation between the notion of disease and that of illness. The former relates to the medical ways of talking about and dealing with the sickness, while the latter refers to patients' own subjective experience (Kleinman 1988; see also Hansson 2007). Instrumental narratives are instructive; they concern disease. They describe treatments, what a treatment includes, how it is carried out and what effects it is expected to have. In Hansson's study these narratives are told to the patient without requiring much interaction (Hansson 2007; Fioretos, Hansson and Nilsson 2013). In moral narratives, patients are active subjects and these narratives concern illness. Their aspirations and how they envision their own futures are incorporated into the accounts. They thus have ethical dimensions that instrumental narratives lack. They turn patients into active and responsible subjects (Hansson 2007; Fioretos, Hansson and Nilsson 2013). That patients encounter different types of information and that the choice of information sources has consequences for patienthood has been shown by Touminen (2004). The ideal patient does not consult medical scientific literature. The acquisition of this kind of information can cause anxiety and even fear, whereas the reading of information made for patients, such as leaflets and guidelines, publications from patient organisation and the like, constructs patients that comport themselves in morally desirable ways from a medical point of view (Tuominen 2004).

The instrumental narrative resembles the textual and visual representa-

tions of the CPR standard, how it is introduced verbally to participants at the beginning of the classes – an instrumental procedure to be executed by people without requiring much reflection. The stories told by Paula are very different from the instrumental instructions on posters, the representation of procedures in the *Chain of Survival*, or verbal accounts of procedures on other occasions during class. The stories very much resemble what can be conceptualised as moral narratives. Immediately after saying that it is rare for a person receiving CPR to respond, Paula tells two different stories about how precisely that happened. The stories situate what the internationally agreed-upon standard stipulates in familiar situations: they place the abstract, instrumental information about CPR measures in settings and situations participants can relate to, and they instil hope (see also McKenzie 2004). In doing so, the anecdotes also transform the instrumentality of the guidelines into a future-oriented moral imperative. Understanding storytelling as acts of composing moral narratives about CPR points to the future-oriented character of these classes. The stories told in classes centre on that the course of event of future emergencies can be influenced if one has CPR skills. The futures envisioned by CPR class participants do not only revolve around the casualties but also very much around the rescuers and the rescuers' actions. As Paula accounts for past happenings, possible futures are imagined – futures in which participants are rescuers who will do their best even though the outcome cannot be anticipated. The kind of information circulated in stories can be said to create links between what is done in classes and elements of meaning.

An awareness of possible future situations is clearly displayed in one participant's account of his motivation for attending the first aid class, which he shares with the instructor and the rest of the group as he introduces himself. His account concerns a possible future scenario in which he wants to be able to intervene, by being able to help his partner in a particular way.

> …the thing is, my partner is ill, and I thought that if something happens to her I want to be able to help her if I can. At least you feel secure if you get some knowledge. She's in a wheelchair or in bed and very dependent on help. She has assistance, so I'm not alone in taking care of her. I thought

> it would be a good thing to get some knowledge about cardiopulmonary resuscitation, should [such skills] be needed. That is, my partner is my reason for being here. [OB 32]

For this participant, attending the class was a matter of being able to help his severely ill partner. If something were to happen to his partner, he wants to be able to help, which here equals knowing how to perform CPR.

In the writings of Hansson (2007), different narratives have different narrators. The instrumental ones are told by medical workers, while the patient is also a narrator in the moral ones. In CPR classes, instrumental narratives in the form of instructions on posters and images such as the *Chain of Survival* come from other actors, some of which were introduced and discussed in Chapter 4. Instructors also mediate the same instructions verbally, which I have already touched upon. Moral narratives, however, do not have a single origin like the instructions do. Even if the message in these stories is similar – that one should not give up hope and that a difference can be made – they may be told by either instructors or participants and be inspired by different sources: individual experiences or situations in life, other people's experiences, or something seen on TV.

This kind of future-oriented scenario construction can be conceptualised as a form of the social modality of information in that participants and instructors together construct common and shared goals and meanings around these scenarios. In this study the social modality, as a source of information, does not inform about the values of any particular professional community, as it does in the work of Lloyd (e.g., 2007; 2009a), but about the importance of taking action and about being a person that takes action. The stories anchor the abstract information in familiar situations; they connect the competences described in the standard to the idea of being able to make a difference. Thus stories like the ones told here are important components in the enactment and configuration of resuscitation. They circulate and link elements of meaning to the enactments of lifesaving in classes: although the rescue may fail, the effort must be made, and hope never abandoned.

Reflections on failure

In order to emphasise that it is not just a matter of buying a defibrillator, but also of learning how to use it and how to perform CPR, Elisabeth tells participants about a situation that did not end well (she does not say where the story comes from or how she heard about it). The very brief story goes as follows. A young man suffered cardiac arrest while at work. There was a defibrillator in the workplace, but no-one had learned how to use it properly. The colleagues who were trying to help the young man only attached one of the two electrodes to his chest, which is not the correct way to use a defibrillator. The young man did not survive, Elisabeth says. He might not have even if his colleagues had known how to use the defibrillator properly. However, his chances would obviously have been better if they had known. Incidents like this one, she says, demonstrate how important training is. It is not enough to buy a defibrillator; you also have to know how to use it [OB *6*].

Here too, the skill participants are about to learn, i.e. how to use a defibrillator, is situated in a story, albeit a very brief one, with recognisable components such as work and colleagues. It is also emotionally engaging: the sudden death of a young man and his colleagues' inability to use the defibrillator properly. Nobody would want to be in the position of any of the involved people. Despite this being a short account and not a very detailed one, it clearly illustrates the point Elisabeth wants to make, namely that taking a class can make a difference and reduce the risks of failure. It raises the spectra of possible future situations and underlines how attending CPR classes can make a difference for both casualty and bystander.

The stories and anecdotes told by Paula and Elisabeth all conveyed the importance of having taken the time to attend a class, and the difference that can make: the possibility of intervening to save the life of someone who has suffered a cardiac arrest. Imagining the possibility of making a difference does give meaning to the class, but what if you do not succeed to make a difference, despite having taken a class and successfully assimilated the CPR measures?

Instructors know and acknowledge that people who suffer cardiac arrest

do not always survive even if timely CPR is carried out. CPR is a means of postponing death, of pushing what could be an immediate and sudden death into the future (Timmermans 1999). Death is remote also in classroom discussions; the term is rarely mentioned. Instead, a common way of addressing outcomes of resuscitations is to talk about the survival of hearts – about hearts that beat and hearts that do not.

> Participant 1: How big a chance is there of the heart recovering by itself? Is it possible, or should you not count on that at all?
>
> Karin: It is possible, but not very common
>
> Participant 1: A defibrillator is needed
>
> Karin: Yes
>
> Participant 1: so, you continue with compressions and mouth-to-mouth ventilations until someone arrives
>
> Karin: Yes, it doesn't often happen that you manage to get the [heart] going, but it can happen… [OB 16]

Karin's answers are a bit vague and sceptical regarding the possibility of a casualty actually regaining consciousness while bystander CPR is being performed: "it is possible, but not very common" [OB 16] – though the defibrillator appears to provide some further hope. This ambiguity resembles that displayed by Paula when she told two success stories after saying that people rarely regain consciousness as CPR is being performed. Karin does not deny the possibility, but acknowledges that it is not likely to happen. Instead of turning to success stories in order to instil hope and drive away doubt, as Paula did, Karin acknowledges that resuscitation efforts are uncertain by nature, and that one should not feel guilt or despair if the person does not survive. Karin offers consolation.

> Participant 3: You should not despair if you don't get it started
>
> Karin: No, and above all you should keep in mind that sometimes there is so much damage to the heart that it cannot be saved, and you should not blame yourself. People die in hospitals despite all the machines, med-

> ication and doctors there. Sometimes the damage to the heart is such that it cannot be restarted. But you can never know that either, sometimes there can be a blockage in a limited area or something that upsets the rhythm of the heart in such a way that it stops. With artificial circulation, as you do by performing CPR, [the heart] keeps running. Then you get [the heart] started with the defibrillator, and the person gets well. We can never know for sure, but you should not feel any guilt, or that you probably did something wrong, or something like that. Sometimes it is not possible…
>
> Participant 2: You should keep on until the ambulance arrives?
>
> Karin: yes, for as long as you can manage, until [the heart] starts or you receive help. Then in the ambulance, they can connect ECG and then they make decisions. So, you sort of have to ignore all possible outcomes and do what you can at that moment, you can't know the future. But it always feels better to be able to do something than not being able… [OB 16]

As one begins a resuscitative attempt, the outcome is of course unknown. And no matter what the outcome, rescuers should not feel guilty. In activities and talk participants reflect on their role and their own conduct in future emergency interventions. In the routines in CPR classes a particular subject, a lay rescuer appears. Even if the casualty cannot be saved, and the situation never fully controlled, you can save yourself from despair, and you can hope. Stories and discussions address what the act of intervening signifies. The social modality of information can be described as linking the bodies of the participants and competences of CPR, i.e. materiality and competence elements, to elements of meaning, that is to hope of being able to make a difference.

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In this chapter I have shown how information is enmeshed across the enactments of resuscitation carried out in bystander CPR classes. How participants and instructors engage with information in different forms, which does not only instruct but also links the competences participants are to acquire with elements of meaning. How informing occurs in these instances of enacting the CPR standard has been shown by drawing on the

notions of instrumental, social and corporeal modalities of information (Lloyd 2007; 2009a). These have been used to organise and focus on different manifestations of information in CPR class routines – routines by which the CPR guidelines are meant to end up in the hands of the lay public.

Storytelling and reflecting during classes mobilised a social modality of information. This form of information situated the otherwise instrumental CPR instructions in familiar situations by accounting for failed or successful resuscitations, and also associated the possession of CPR skills with hope and being able to make a difference, while also underlining that one should not blame oneself if a resuscitation attempt fails. The stories can thus be said to circulate elements of meaning and to associate these with the activities in class.

In practical exercises, the corporeal modality of information is engaged in various ways. Participants learn how to use their own senses and bodies to evaluate the state of presumed cardiac arrest casualties, how to perform CPR and what the execution of the measures should feel like when they are done in the right way. The rescuer's physical body is a central material element in the enactments of the CPR standard. The people leaving a class are meant to be in possession of physical bodies that respond automatically and use their senses as instruments for evaluating the state of a presumed casualty. However the fact that automatization is not always achieved does not appear to be a problem. A reoccurring and commonly expressed conclusion of both participants and instructors is that doing something is good enough, even when it does not have the desired effect and no life is saved. When the helping body fails, stories and moral narratives help maintain a coherent helper figure, a rescuer. In addition to distributing the practical know-how of resuscitation, what the bystander CPR standard says is in routines and activities transformed into a shared understanding of what the activities that participants engage in are all about. This shared understanding about the possibility of being able to make a difference, combined with the practical CPR know-how, turns participants into potential lay rescuers. Classes are not instances of transmission, but of transformation. In the next chapter this helper figure will be further examined, and enactments of resuscitation in bystander CPR classes will be discussed as a manifestation of governance and control.

6. Informed to make a difference

Previous chapters have already, to varying degrees, touched upon how the activities of lay involvement in resuscitative endeavours can be understood in terms of control and regulation. The work of the *Swedish Lifesaving Society* during the first half of the 20th century, discussed in the third chapter, illustrated how resuscitation has a history of implicating non-experts outside or beyond medicine. Their work, which centred on spreading swimming, lifesaving and resuscitation skills among the Swedish population would reduce the number of drowning deaths. The Society's endeavours were undertaken and legitimated, in their own writings as a means for promoting improved health and hygiene allowing the Swedish population and nation to prosper. In this way the Society's work connected resuscitation training to the modern idea that the nation state would progress through educating the population and improving health and hygiene. In practice theoretical terminology, this understanding can be conceptualised as an element of meaning that was in wide circulation at the time. These ideals, which gave meaning to the Society's work and mission, have since been transformed. Previously central social categories, such as the nation-state, which figure prominently in the writing of the *Swedish Lifesaving Society*, are today not ascribed the same importance for the ways in which social life is organised (Beck and Beck-Gernsheim 2002). The fourth chapter discussed the *Mobile Lifesaver Project* and showed how the possibilities for lay rescuers to intervene are facilitated by mobile phone technology and mobile phone positioning systems. These technologies enable the emergency services to locate and send lay rescuers to cases of suspected

cardiac arrest. Chapter 4 also touched upon the many ways in which information about cardiac arrest and CPR is aggregated and gathered in different registers, i.e. how certain knowledge about cardiac arrest and lay rescuers is created and compiled. Such gathering and compiling of data can also be understood as a way of governing the population (Foucault 1978). This chapter pursues this theme by focusing on the relationship between the helper and society, by looking at how responsibility and power is inscribed into the role of lay rescuers. It will discuss how participants are shaped into this kind of subjects, and what role information plays in that process. Information is here, as in previous chapters, broadly conceptualised as enmeshed across practices (e.g., Cox 2012; 2013), meaning information can be understood as embodied and social (e.g., Lloyd, 2007; 2009a; Veinot 2007), as well as instrumental and as textual content (e.g. Lloyd 2007; 2009a). How different forms of information discipline and enable self-administration will also be discussed.

In order to explore how notions of responsibility and control are merged into the routines of distributing and imparting CPR skills among the lay public I have found Foucault's concepts of governmentality and of technologies of the self (Foucault 1988; 1991) particularly useful. A governmentality perspective seeks to understand how subjects are shaped by mundane technologies by which individuals govern themselves and become subjects which are like those that disciplinary technologies of power seek to produce. Liberalism operates in this way by offering individuals the possibility to choose, which implies both freedom and responsibility. Compared to other forms of governing, liberalism also emphasises the role of non-political actors and authorities in shaping the habits of the population. These non-political actors may encompass religious organisations, NGOs, charities philanthropists or even physicians (Rose, O'Mally, Valverde 2006, p. 91). The latter two are, as has been shown, central actors in the realisation of bystander CPR classes and the distribution of CPR skills amongst the lay public.

The notion of practice elaborated in previous chapters and that of governmentality are seen here as complementary perspectives. The practice perspective highlights how routines emerge and are shaped, whereas the governmentality perspective stresses how control, power and self-regulato-

ry technologies are merged into routines. A governmentality perspective considers everyday things and activities to understand how people regulate themselves (Rose, O'Mally, Valverde 2006). Seeing power and control as operating through the mundane combines usefully with a practice approach in that a governmentality perspective also attends particularly to micro-level processes. The notion of information employed in previous chapters – that information is enmeshed across social practices and that users and co-constructors of information are shaped by taking part in practices (e.g., Haider 2011; 2012; Lloyd 2007; 2009a; Rivano Eckerdal 2012) – is extended here to encompass governmental rationalities regulating the situations in which information is used, needed and evaluated. Information activities are understood as permeated by the rationalities of the practices in which they occur (e.g., Sundin and Johannisson 2005).

As indicated by examples and discussions in previous chapters, lay participation in resuscitation training can be understood as both a disciplinary and a self-regulatory practice. How this happens will be further examined in what follows. The understanding of governing and steering encapsulated in the notion of governmentality will be used to inquire into how participants in classes are shaped into lay rescuers. In what follows I will therefore direct my attention to forms of regulation and control that surround bystander CPR training, and show how the morals of being or becoming a helper are expressed and internalized by individuals attending these classes. The ways in which the standard is enacted in those settings, and the kind of subjects that are shaped during CPR training will here be inquired into by applying a perspective that foregrounds the playing out of governmentality.

What follows is divided into two parts. The first section attends to the ways in which control and regulation figure in the administrative routines of bystander CPR classes. The second part addresses how self-regulatory techniques by which participants transform themselves into certain kinds of subjects operate in CPR classes. How these work is also manifest in material from interviews.

Administrative routines and governmental rationalities of CPR

Modernity brought an increased interest not only in standardisation but also in quantification (Star and Lampland 2009). An important tool that appeared with the development of the modern administrative state for controlling the population was statistics. Statistics made it possible to know certain things about the population as a whole, about its health, longevity and birth rates (Foucault 1991). Standards and statistics can be said to be forms of information which have been attributed particular significance since the emergence of modern society. The notion of governmentality has been used specifically to denote liberal forms of governance. It has also been pointed out that quantifying and measuring techniques such as audits, standards and benchmarks enable liberal states to govern "at a distance" (Rose, O'Mally and Valverde 2006, p. 91). Practices of gathering and organising information are constantly generating more and new knowledge and can also, I suggest, be thought of as means that facilitate the formation of lay rescuers from a distance. These practices generate information that in different ways sets out the boundaries for the actions of lay rescuers and emphasises the need for lay involvement. In previous chapters, the aggregation of statistics, of categorising and sorting different aspects of resuscitation have been discussed in terms of nested standards facilitating a number of connections and alliances between medical interventions and everyday life activities – between cardiac arrest causalities, lay rescuers and medical professionals. The *Mobile Lifesaver Project*, in particular, was seen as enabled by these alliances. The connections that enable this project can also be described as a form of administrative work favouring the creation of a particular kind of subjects: lay rescuers. The aggregation of statistics about CPR and cardiac arrest can also be described as belonging to administrative routines that make certain things possible to know, and as such governable (see Foucault 1991). In this chapter such administrative routines are understood as constituting means for shaping conduct and favouring the formation of lay rescuers.

Inform to discipline

Whereas learning how to swim provided a context for distributing resuscitation skills to the lay public in the work and mission of the *Swedish Lifesaving Society* during the first half of the 20th century, the participants I observed were taking CPR and first aid classes in the context of occupational health and safety. Today, work environment legislation and policies are often the legitimate and explicit reason for both giving and attending these classes. The fact that the work environment aspect features prominently in my observations may obviously be related to the circumstance that one of the sites where I did my observations was an occupational health service. However, many of the participants in classes at the volunteer organisation were also attending in their capacity as workplace representatives. The empirical examples presented in this section are nevertheless from the occupational health service, since the connection to work was made more explicit there.

According to a provision about first aid and emergency support in the Swedish work environment legislation (Arbetarskyddsstyrelsen 1999), a certain number of people at a workplace, to which this act applies, are required to have first aid training. What such training is made up of varies depending on the particular workplace, its potential dangers and its size. In workplaces where employees handle toxic substances, they obviously learn to deal with other sorts of emergencies than office workers do. The provision does not specify that CPR has to be among the first aid skills employees learn, but it usually is. It is the employer's duty to see to it that the workplace fulfils the requirements of the provision.

Work environment legislation is thus the reason why the occupational health service organises CPR classes. In my field notes I have quoted Elisabeth saying to the participants on one occasion that work environment legislation is the occupational health service's bible [OB 22]. This comment by Elisabeth highlights the centrality of that legislation for both the occupational health service and the nurses working there. Karin also refers to it at the beginning of each class as a motive for giving CPR classes. If an accident occurs at work it is important that employees know the correct address to give to the emergency service, and which entrance is most suit-

able for bringing a stretcher through, she says. She continues to talk about the importance of considering these issues in advance, i.e. before accidents occur: how to act, where to direct the ambulance to, what bandages should be available, and which colleagues know CPR [OB 5].

Possible risks and dangers need to be evaluated in advance, before they occur, and precautions must be taken. Work environment legislation can be said to provide a basis for developing routines that make potentially dangerous situations manageable. CPR classes can consequently be seen as both a prerequisite for developing additional work environment routines and as a form of regulation and control intended to protect the health and safety of the organisation's employees through the distribution of first aid skills. Once again, a comparison with the *Swedish Lifesaving Society*'s work around the first half of the 20th century is illuminating. It shows how CPR training for the public is associated with meanings that are fairly established, yet different. In the Society's publications from the 1920s and 1930s, these efforts were very explicitly intended to secure the work force of the Swedish nation and through that the future well-being of the state. The social unit to be made safe and which is talked about by instructors nowadays is very often the workplace. Resuscitation training thus continues to be a way of managing and administering life, although the unit to be safeguarded is conceptualised differently. Even if instructors are eager to emphasise occupational health and safety, which is also the legitimate reason behind many CPR classes, this is not necessarily equally important to all participants. I will return to this after discussing the connection between occupational health and safety and CPR training.

Classes are not only opportunities to acquire CPR skills; they occasionally also provide opportunities for participants to discuss improvements to health and safety at work. The following example illustrates this. Legislation is extremely important for Elisabeth and her colleagues and they repeatedly return to its significance. Also classes are both organised and structured around work. That occupational health and safety regulation is so self-evidently important for the instructors does not necessarily mean it has the same clear significance for other employees and potential participants.

Employees at the organisation Elisabeth and Karin work for do not

appear to be that eager to attend repetition classes. This problem was also brought up on one particular occasion, and addressed by a group of colleagues not only eager to practice themselves, but also keen to know if their other colleagues had attended as they said they would. After having watched an instructional film, done mouth-to-mouth ventilations and chest compressions on mannequins and placed each other in the recovery position, class participants discuss ways of getting more colleagues to attend classes. One of the participants asks the instructors how many people from his and his colleagues' part of the organisation has attended today's class. None, it appears, even though emails about the class had been sent to all of them. One of the other participants suggests that the instructors should come to their workplace instead of participants coming to them; this would make it easier for the instructors to reach out to the organisation's employees. Karin and Elisabeth agree that it would be a good idea. All they need is a room with a screen and a projector, where they can show films, they say. The discussion continues on the same theme – poor attendance. The man who asked the question above says he had heard from at least three other colleagues that they were going to go to the repetition class. But apparently none of them have been. Karin says it is important that the information about their classes comes from the manager. That will make people understand that it is important to attend, she says. Another participant expresses surprise as he says he expected there to be lots of people in a queue and that he would have to wait for his turn to practice. The instructors agree, they also thought many people would come. One of the three colleagues says it would be good to have some kind of system for keeping track of who has taken the classes. The instructors agree with this as well, saying that a system like that should be part of health and safety work. A participant adds that routines for sending new employees to these classes should be developed. Additional tools and routines for organising and administrating classes could improve the situation, the participants speculate, and make occupational health and safety work more systematic. The instructors say they keep lists of who has attended, but that it is still difficult to keep track of how the skills are distributed since divisions within the organisation sometimes change names, merge with other divisions, or become phased out [OB 2].

For the group of colleagues that did attend the drop-in repetition class, doing so appears to have been a matter of course, while repetition of CPR skills does not appear to be a top priority for many others. The problem identified emerges in the conversation as something that can be conceptualised as an informational problem. Giving classes and making employees attend is a matter of keeping records and distributing information, but not just any kind of information. What is required is information conceptualised as knowledge or as the content of a message; information that can be sent by email and be accessed in and extracted from organised systems. This understanding of information marks the suggestions articulated by instructors and participants on this occasion, and it is this type of information that is expected to improve the situation. In addition, Karin says that the emails should not be sent out by just anybody, but should preferably come from the manager, i.e. a person entitled to make demands. This incident suggests that acts of informing can be perceived as a manifestation of a desire to discipline. Despite the abundance of this form of information throughout society – telling us what to eat, how to live or, behave in desired ways – the expected and desired outcomes of such transmissions or acts of discipline often fail to have an impact in everyday life practices. Information is often assumed to remain unaffected by the ways in which it is mediated and the context in which mediation happens (e.g., Wyatt, Harris and Wathen 2008). A good example of a study of the connection between information and discipline is Haider's (2011) study of environmental information and everyday life that shows how environmental information is more likely to lead to changes towards more sustainable ways of living when connected to practices of everyday life. In the incident described above, however, both participants and instructors request factual information framed as knowledge or content of a message, and this type of information is expected to have a disciplining effect on employees and make them attend. The form of control proposed and requested in this discussion is not in the form of the subtly embedded governing of governmentality, but rather through direct control and discipline. These participants want more rules and regulations, and the reality that people do not show up is assumed to be a result of a lack of disciplinary measures and misdirected or insufficient information.

Helpers and non-helpers

The number of attendees in CPR classes is documented in the training register by class organisers or instructors. As observed by Bowker and Star (1999, pp. 290-291), contrasts can make certain things known simply by the fact of these falling outside the boundaries of a category. Categories take shape in relation to things that are different. The documentation of the number of CPR class participants in the training register makes it possible to know, though at an aggregated level, that there is a large number of CPR-trained lay rescuers, trainers and instructor-trainers. People are described in categories. The existence of this category of people also means there is another category: those who have not attended CPR classes. Elisabeth says that she herself accesses the register via the *Swedish Resuscitation Council's* website after each class to register the number of attendees. She only documents the number, not names or anything else [OB 20]. This would seem to be a rather unproblematic routine, easily carried out as long as participants have turned up to do the exercises Elisabeth has prepared. However, this is not always the case.

Karin and Elisabeth have set aside three hours of the afternoon for a drop-in repetition class for the organisation's employees, repetition classes are often asked for by those attending the beginners' class and are also, according to recommendations from the *Swedish Resuscitation Council* necessary for CPR-trained individuals in order to keep their skills fresh, i.e. up to date (HLR-rådet, n. d.). Employees are free to come at any time during the three hours. Repeating the CPR guidelines is not estimated to take long, something like 20 minutes. In the classroom and the room next to it, usually used for coffee breaks, different versions of resuscitation mannequins lie on the floor and on tables, ready for training and demonstrations. One mannequin is placed on a table in the coffee-break room, next to a defibrillator, with the electrodes already attached to its chest. In the classroom everything is prepared for showing films to participants as they arrive. All employees who on some earlier occasion have attended a CPR class are welcome. Now only participants are missing. Time passes and still no-one turns up. Karin and Elisabeth say that this is a waste of their time. They have to wait and see if anyone turns up, and so can't use the time for

anything else. After one hour there are still no participants. Elisabeth leaves the room to attend to an emergency phone call. While Elisabeth is away, Karin begins telling me about her previous experiences working as a CPR instructor. She used to work as a kind of traveling CPR instructor, visiting workplaces to give classes. She brought the mannequin with her, in the boot of her car, and the classes were held in lunchrooms and canteens. She says she enjoyed that job very much – it was fun going around to different workplaces, and the classes were a kind of activity, she says. The waiting continues, Karin reads a newspaper and after a while I pick up a book from my bag to read. When Elisabeth returns we watch some instructional films together to pass the time. When two hours have passed, I have to leave, and no one has yet arrived to practice. If the next hour continues in the same way there will be no participants for Elisabeth to register in the CPR training register, no new numbers to add. "What are we doing wrong?" Karin says disappointedly [OB 20]. This occasion did not turn into a fun activity.

Karin and Elisabeth abide to the demands of work environmental legislation. By holding classes they do their part in fulfilling work environmental requirements. But on this occasion neither informing nor disciplining occurs. In the examples cited above, where Karin and Elisabeth reflect on the lack of participants, they appear to have abandoned the embodied, situated and contingent understanding of informing which was very vividly expressed on other occasions and discussed in the previous chapter. Here the two instructors seem to subscribe to a very linear and instrumental notion of information as a clear and predictable chain of events. More information is meant to lead to certain desirable behaviours. If only information is sent out, people will turn up, ready to improve their CPR skills. This is in contrast to how the two instructors are very aware of how contextual information is and of the significance of situations-specific embodiment when giving instructions on how to acquire the necessary skills in their classes. Yet, on this occasion, when reflecting on the lack of participants, they do not consider situation-specific aspects of informing. This lack almost works as a magnifying glass making the situatedness of knowing and information all the more noticeable.

Self-regulation and self-administration

So far I have demonstrated that although the routines of the CPR classes are fairly well established in terms of how classes are organised, what is done in classes and how, the actual act of attending does not appear to be quite as routinized a matter. Empirical examples that have been discussed so far in this chapter have centred on the lack of attendance, something which in participants' and instructors' discussions can be understood as resulting from a lack of disciplinary measures and information in the form of knowledge or the content of a message. Such information and disciplinary measures have been called for to remedy these shortcomings, and make those reluctant to attend come to classes. Among participants who have taken the time to attend a class, however, it appears that other regulatory principles than discipline or occupational health and safety have governed their attendance. In accordance with the governmentality perspective, regulation also occurs through individuals' own acts upon their conduct and thoughts (Foucault 1988). One way of inquiring into how people govern themselves is by looking at mundane activities and things (Rose, O'Mally and Valverde 2006, p. 89). Examples of this kind of self-administration and control related to the creation and distribution of information can be found in how people seeking to live in more environmentally sustainable ways use social media such as blogs and Twitter (Haider 2015). By blogging and tweeting about what they do or plan to do, Haider's informants make their efforts in accomplishing their goals of greener lifestyles visible to others. In doing so, they also regulate their own conduct. This self-imposed activity is described by Haider in terms of self-administration. Her study demonstrates how acts of creating and distributing information in social media have potential to do governmentality work. In a similar manner, displays of commitment and dedication in discussions and exercises with other participants and instructors in CPR classes work in a self-administering way.

Subsequent sections will address how individuals regulate themselves and embody the role and responsibility that the bystander CPR guidelines assign to them, as well as how the proper conduct of a lay rescuer is nego-

tiated. Many who attend CPR and first aid classes experience them as empowering, as providing possibilities of actually being able to make a contribution in case an emergency occurs. Subsequent sections will show how the will to be able to make a difference is manifested in actions in class and in participants' statements and discussions. The final part of this chapter has been structured around three recurring themes from observations and interviews, which all manifest self-regulation: the will to help and make a contribution, the negotiation of a moral standard, and the making of assessments. In this connection, technology is to be understood here as referring to a base for reasoning and doing that includes the acquisition of particular skills as well as attitudes (Foucault 1988, p. 18).

The will to help

Once Karin has explained to participants what they are going to do and learn during the two- and-a-half hour long class, she also mentions how many people suffer cardiac arrest every day in Sweden, thus drawing attention to the prevalence of the problem. One participant asks her for how long CPR has been taught to the lay public. Karin replies that it has been going on since the 1980s. She says that initially she wondered how teaching CPR was going to be carried out and succeed but apparently this is no longer an issue for her. She goes on to say that the guidelines have been simplified since then, and that the main objective of what they learn in class is to maintain circulation until professional help arrives. One of the participants immediately reacts by saying that this is "an enormous burden to lay on someone". Karin quickly replies that they should not think of it in that way, instead they should think "I can make a contribution here" and not just wait for the ambulance to arrive [OB 7].

In all the classes I observed, this was the only occasion that a slightly critical opinion was expressed about the class: that what participants learn could possibly be a burden. On this one occasion, the critical voice was quickly silenced and told to take a different point of view. Thus what could be perceived as a burden is not only turned into an opportunity to contribute, but also converted into a possibility of individual transformation, of not being a person who stands there doing nothing while waiting for

the ambulance, instead becoming someone who steps forward and intervenes. Although this excerpt is the only example in my material of explicit questioning of the distribution of CPR skills and their acquisition by the lay public, it was just one of many occasions when CPR skills were cast in terms of being able to make a contribution.

The understanding of the knowledge acquired in classes as a matter of being able to make a contribution, combined with the will to help, can be described as operating as a self-technology. Acquiring a set of skills in class becomes a means for transforming of participants into people that are supposed to be able to make a difference. This ability is a means to control the self through a duty that flows from the skill of the individual rather than from (civil) rights as above in the example from the *Swedish Lifesaving Society*.

What participants are about to learn at the occupational health service is initially framed in a workplace setting. However, discussions in class often come to revolve around locations and situations that are not specifically connected to work or the workplace. In interviews with participants it becomes very clear that saving lives is not confined to the workplace. The transformation of participants into knowledgeable lay rescuer subjects is also thought of as something beneficial to society at large. This is expressed very explicitly by IP 6:

> IP6: I do not see myself as only an employee at [the organisation]. Being trained to do CPR is something I hope many people are, because there should be an increased preparedness. To know how to save lives is what is the basic thing
>
> K: mm
>
> IP6: The more people that have this know-how, the larger is the chance that a person in need of help is saved.

By taking the class, IP6 has transformed herself into one of what she hopes are many CPR- skilled individuals in society, ready to intervene to save lives. She does not see herself as only an employee, but as part of a larger group of skilled rescuers who should be prepared to intervene outside of the workplace as well. She chose to attend not because of health and safe-

ty regulations, but because of a sense of responsibility towards people around her and in society as a whole. IP 3 did not feel obliged to attend because of health and safety regulations either. When I asked her why she attended the CPR class she said:

> IP3: we received an email or letter about the classes, saying when they would be held and that it would be good if one in every 15 employees attended. Now we are not that many [in IP3's section]. I checked, and a long time had passed since I took such a class and I thought it would be suitable to attend
>
> K: You felt you did that of your own will?
>
> IP3: Yes, completely of my own will, nobody is forced to do anything around here!

Although IP3 refers to an email she received, a piece of textual information, it was not control or forms of discipline that made her attend, it was her own choice and will. However, this can be said to have been triggered by the email she received. According to IP 3, neither she nor her co-workers are made to do such things as attending CPR classes against their will. If they do attend it is voluntarily– "nobody is forced to anything", she says with a laugh. Although both the occupational health service and those attending the classes they organise comply with health and safety regulations and policies, attending does not appear to be seen as merely complying but as an opportunity to acquire valuable skills which are meaningful beyond the workplace.

The understanding that the know-how acquired in CPR classes enables participants to make a difference can be found in many examples presented earlier, and was also discussed in the previous chapter, in relation to how stories and anecdotes spread the idea that a difference can be made and that hope must not be abandoned. The causal connection between being willing and able to help and being willing and able to perform CPR was apparent in the assumptions about the willingness of the lay public in Skåne to sign up for the *Mobile Lifesaver Project* discussed in Chapter 4. The same notions – that helping and making a contribution means having certain medically sanctioned practical skills acquired in CPR and first aid

classes – are also evident in the following excerpt from my interview with IP 7 and IP 8:

> IP8: Because that I think would be the most awful thing to feel – God, I could have helped this person but as I have no training I can't.
>
> K: no
>
> IP8: Then it's really like a cliché, the difference between life and death, that it's simply about training
>
> K: mm
>
> IP7: I agree. If you're the one who's been injured, then that's just the way it is, then there's nothing you can do about it, but if it's someone else in your immediate surroundings then you really can make a difference if you have the knowledge
>
> K: mm
>
> IP8: Exactly! Then imagine finding yourself in such a situation and not having the knowledge
>
> IP7: What do you do?

The ability to help is closely associated with the skills learned in class. Finding themselves in a situation in which they wanted to help, but being unable to do so because they had not taken the class would be an awful feeling, IP8 says. Not having had the opportunity that IP7 and IP8 had could possibly mean being unable to help. Being a lay rescuer implies adopting both an attitude – the willingness to help – and CPR skills. According to their expectations, acquiring the particular know-how that comes with the class is a way of getting rid of that awful feeling and being able to make a difference. The possibility that there could be other ways of dealing with cardiac arrest than administering CPR, such as grieving or acceptance, is never brought up in classes. Of course, CPR is seen as an intervention, an attempt to influence the outcome of a cardiac arrest; grieving or acceptance is seen to occur when that outcome is a fact. This is something blanked out in class. However, it might also be that CPR

functions as a way not so much to change the outcome of the cardiac arrest event, but to deal with emotions, such as fear, grief, acceptance, that the helpers encounter in themselves. It appears to be a dominant and undisputed understanding that engaging in CPR is the morally correct and desired intervention in all cases of cardiac arrest. What these classes can also be said to do is to reproduce an uncontested way of handling sudden deaths and cardiac arrest defined by academic medicine, something which has also been highlighted by Timmermans (1999) and Singleton (2005) respectively. What to do in case of cardiac arrest is to follow to the CPR standard, which is thus not only the standard treatment but also a bystander's standard response (see also Timmermans 1999); what helping is all about.

The hope of being able to save lives by acquiring CPR skills is expressed in many ways. One of the participants in Elisabeth's class says she finds it strange that her employer does not invest in making it possible for all employees to attend CPR classes. Her puzzlement at this and her dedication to the lifesaving cause is illustrated by a comparison she makes with activities organised by her employer a few years earlier, when she and all her colleagues spent a day on teambuilding activities. She says they played games and things like that in order to improve the spirit within the organisation. According to her it was not very rewarding, and she asks: "would it not have been better to train everyone in something that can make a difference between life and death?" [OB 17].

This participant obviously does not view her attendance as merely an act of compliance; she appears to want more of this, and not only for her but also for all her colleagues, which she thinks is something her employer should invest in. Elisabeth agrees with the participant's objection about her employer's priorities. She too finds it strange that money can be spent on teambuilding, when having people take a CPR class, which may make a difference between life and death, would be a more worthwhile investment [OB17].

In the quotes above two different activities are compared: teambuilding and CPR classes. One of these, CPR classes, is endorsed in occupational health and safety regulations, which could justify prioritising these classes over teambuilding activities. But health and safety legislation and regula-

tions are not mentioned in the conversation. Instead, the possibility of making a difference between life and death, which is associated with CPR but not with teambuilding, is brought to the fore. Possible positive effects of teambuilding cannot compare with the possible positive effects of CPR training. The incident illustrates how CPR training is associated with morals in a way that few other activities can compete with. CPR classes are not attended merely because people want to comply, as a consequence of disciplinary governing measures like regulations but because these classes are understood as offering possibilities for making a contribution to a community and to society.

The examples in this section have illustrated how the will to help, to make a contribution, operates in a self-regulatory way that makes taking CPR classes an act of self-transformation by which the will to help can be fulfilled. The will to help is not circulated in the form of instrumental information but appears and is articulated in conversations as a shared understanding among those present. The instrumental instructions for CPR are means by which the will to help is transformed into actual action. The next section will elaborate on how the risk of not being able to act in accordance with the CPR standard is handled through the adoption of what can be conceptualised as a moral performance standard.

The moral standard

Consider the following situation and discussion that arise during a class following the practical exercises. One participant says that what makes her nervous is "that you have to maintain some sort of rationality in a situation that is very irrational". Elisabeth acknowledges her worries and tries to assuage them by saying that we can never know who will act rationally, it may not be the person we expect to be rational, and we can never know how we are going to handle a situation like that until we have been in one. She also says that if you do experience a situation like that, it is important to talk to someone about it afterwards, which implies that the experience may be emotionally difficult. Echoing the reflections on failure discussed in the previous chapter, one of the other participants adds: "…about assessing [yourself], you shouldn't lay too much of a burden on yourself.

Even if you're not a CPR expert, it's always better to do something than nothing". Elisabeth seconds the participants' assertion. She says that even for people with medical training it can sometimes be very difficult to perform CPR. She is therefore not surprised that the bystander CPR script has been simplified. Pulse control has been removed because in a stressful situation it is difficult to find the pulse, she says. Elisabeth repeats the mantra "It is always better to do something than to do nothing at all" [OB 19].

Up until this point Elisabeth and the participants have reflected on worries and insecurities, fears of failing to perform, of being a failed rescuer, and the participants have been open about their worries and fears as the conversation has evolved. In these engagements with what can be described as the social modality of information, the act of "doing something" is given particular value and categorized as being what one is meant to do. What this includes is however rather vague and best defined in relation to its opposite: "doing nothing". The assessment of one's own performance are made against the moral standard of "doing something". The conversation can be seen as a negotiation of what can be expected from lay rescuers and what is considered acceptable and correct conduct. In this negotiation not only the outcome of the intervention whether a life is saved or not is considered. It also encompasses aspects such as the individual helper's feelings and fears, and results in the agreement that "doing something" is an acceptable intervention. This can be conceptualised as something like a moral performance standard. A performance standard (Timmermans and Berg 2003) which, instead of evaluating the result of the performance in terms of successful resuscitations, rates the actions of the helper: whether these were what is considered morally desirable and accepted. Compared to the CPR standard which is very specific about what is to be done and when, merely "doing something" is in terms of actual measures and activities very vague. Despite this, there appears to be a consensus among the participants about the meaning of "doing something". It is a good enough effort it appears, it is better than inaction. Performances are not assessed in relation to the outcome of the resuscitative effort or to how closely the CPR standard was followed, but in relation to the assertion that something has been done. The moral performance standard is formed in discussions

about participants' worries and fears, and the acknowledgment that lives are not always saved. It is established on the basis of feelings, sensations and shared understanding that emerge in discussions between the participants and the instructor, i.e. through the engagement with social and corporeal modalities of information.

Following this discussion Elisabeth abruptly turns the conversation about fears of not being able to act in a rational manner into an instrumental and instructive account of CPR. Resolutely she points at the poster on the whiteboard. "Begin CPR quick as a flash", she says. She then goes through the procedure measure by measure, as depicted on the poster. No specific circumstances are mentioned, nor are any likely or possible feelings the helper might have. If there are several people at the scene, tasks can be divided between them, Elisabeth says. Pointing authoritatively to the participants she distributes duties, telling one participant to make the call, another to begin the checks and initiate CPR, and a third to be ready to meet the ambulance. "So it's all rational, just like you said before", Elisabeth concludes, directing her comment to the women who began the discussion [OB 19].

When Elisabeth turns to the poster it is as if she wants to eliminate doubts and worries, make the execution of the guidelines more machine-like and automatic, and remove any distractions – all of it with the best intentions. It is as if she wants to turn the know-how back into an abstraction, and into ideal procedures. When Elisabeth turns to the poster she engages with the instrumental modality of information, turning the future lay rescuers, the class, into recipients of information.

In the example above Elisabeth reverted to an instrumental account of the guidelines in order to evade the participants' fears and worries. The guidelines can also be said to constitute a reassurance for instructors, they cannot instruct about just anything, the guidelines mark out boundaries for what they can do and say. Later during the same class Elisabeth acknowledges how certain circumstances allow for modifications of the procedures stipulated in the guidelines. When the casualty has vomited or when there is blood, the rescuer may feel reluctant to do mouth-to-mouth ventilations, she says. In such cases it is much better to do only the compressions and skip the ventilations instead of just walking away, she con-

tinues. "This is something we're allowed to say now, because this is better than nothing at all" [OB 19]. Before the 2011 update of the standards, no instructor was allowed to recommend only partial CPR. Instructors' work as well as participants' interventions are guided by the standard. This modification of the CPR standard can be said to approach, or facilitate compliance with, the moral standard of doing something.

Although the standard treatment of cardiac arrest is CPR, and despite the fact that many participants equate helping with being willing and able to perform the measures of the standard, when participants do reflect on future performances doubts about being able to perform are voiced. A different standard emerges that mediates something else than the instrumental accounts of the CPR standard. This moral performance standard, as I have called it, is negotiated by participants and instructors based on evaluations of their feelings, worries and fears. The moral performance standard allows participants to continue to perceive themselves as lay rescuers, even if lives are not actually saved. Unlike the CPR standard, which is drawn up by medical expertise, consensus that "doing something" is a good enough effort is reached in discussions between participants and instructors in class. The subsequent section will consider how the different understandings of information that have been discussed previously are mobilised in negotiating the boundaries of lay rescuers' responsibilities in emergency interventions.

Making assessments

Although the consensus that "doing something" is good enough appears to be unquestioned, some participants still want more instrumental-like information than what is provided in class. The contrasts and difficulties in fully understanding what emergency situations can be like, and how to act in them, are addressed by IP 7 and IP 8. Their worries concern the difficulty they have in defining the limits of their responsibility as lay rescuers and in understanding how emergencies differ from exercises in class. They are clear about the fact that emergencies are not like the arranged scenarios in class. In the interview, this leads to a request for additional information, a request which can be conceptualised as an information

need, a need for different forms of information.

IP 7 is clearly very emotionally engaged, almost agitated, as she talks about the discrepancy she imagines there must be between the scenarios they have discussed in the class, and real life situations.

> IP7: That's something that has bothered me a bit – we've practiced how to secure the location[12], to assess whether the situation could be life threatening for us. But if it is life threatening, what do you do? If there's a risk of collapse? If there's a fire?
>
> IP8: Unfortunately…
>
> IP7: Are we supposed to run in and drag the person out of there, what do you do? We joked about there not being any cables, but what if there are cables?
>
> IP8: I just think…
>
> IP7: How do you remove the cables in a secure way so you can reach the person in question?
>
> IP8: It's exactly, like a…
>
> IP7: It feels like I'm missing out on some things. We talked about life threatening situations but what are we to do in such situations? Some likely scenarios – if this happens, do this, if that happens, do that. Then we can move on and check consciousness, breathing and so on.
>
> IP8: Exactly, you have difficulties talking about limitations. You say, 'ok, here's where our job ends, now we call the ambulance'. But you don't always know that – when you are supposed to intervene and when your job is finished.
>
> IP7: You start out from best-case scenarios in class. Real life situations

12 Securing the location is something course participants do by pretending to look for dangers. In the exercises they always conclude that there are no dangers, and move on to take care of the casualty. When IP7 says "how to secure the location" she is referring to this act of looking for dangers which, in classes always results in the confirmation of there are none.

aren't always best-case scenarios.

Although IP 7 and IP 8 admit that the guidelines may not fit real life emergency situations, they still want more guidelines. What they criticise but also request more of is the kind of information that can be described as instrumental, and information framed as knowledge or content. They want additional guidelines in order to overcome uncertainty: guidelines to rely on when intervening in different types of situations, and for defining the limits of what they are supposed to do and what they can leave to professionals such as paramedics. Their request for more instrumental-like information can be interpreted as a way of maintaining the boundaries between lay and expert interventions and responsibility. These boundaries were also found to be preserved in the CPR citizen training program studied by Singleton (2005) despite the explicit aim of that program to break with such divisions. Like the community members committed to the program in Singleton's study IP 7 and IP 8 want map out exactly what they have to do and what is for experts only. They are very willing and enthusiastic helpers, but they are not willing to do just anything.

Making assessments in emergencies require lay rescuers to interpret other forms of information than instrumental ones. In the previous excerpt, IP 7 and IP 8 requested more universal and instrumental guidelines that could solve what appeared as a clearly identified and delineated information need, information about what to do and how to do it. In the following excerpt, IP 7 and IP 8 can be said to problematize an instrumental understanding of information. They question that information can be universal and suitable for all situations, as they highlight the importance of interpreting situational sensory and corporeal information when making assessments in emergency situations.

IP8: Exactly, many of these situations you do not talk much about but what it is about is ones own assessments. All people can make a misjudgement of course. But then you have made an assessment and you cannot be punished for that. But I'm thinking, if it's a situation in which the house is on fire, I cannot go inside, sorry, it's to dangerous for me.

IP7: That is one thing, I could run into the house now but is that the idea

that I should run in and get the person?

IP8: Yes, exactly, one person may make that assessment, to run in and get the person, and another person may [make the assessment] 'no, it's just not possible'

K: mm

IP8: It's a lot about personal assessments about what you do, in practice that is…

K: mm

IP8: Not what you dares to do, but what you think is safe and so…

In the context of resuscitative interventions, assessments are made by engaging with information other than instrumental information and which is available only in the situation where interventions are to be carried out. This may involve physically experiencing the environment and interpreting it using one's own senses (see also Veinot 2007). Interpreting physical aspects of emergencies is exemplified in the interview excerpt by evaluating the danger of a fire, which requires the rescuers to engage with the corporeal modality of information. Such interpretations can be subjective and result in different assessments and decisions, according to IP 8. The actions that follow can thus vary depending on the rescuer's assessment following upon interpretations of this type of information. The reality that different people can make different assessments by making different interpretations illustrates the contingent and situated character of information accessed and interpreted by using one's senses. Although IP 7 and IP 8 acknowledged that scenarios in classes are staged and that reality does not conform to best-case scenarios they still want more information about particular situations and scenarios. The situations in which assessments shall be made are interpreted based on a different sort of information arising from the contingencies of the situation, from interpretations based on embodied and sensorily mediated information (see also Veinot 2007).

Making assessments about a situation is important, IP 8 says, and something you must not be punished for even if the assessment falls a bit short.

Whether interventions are characterised as dangerous or not is based on personal and situational assessments derived from earlier experiences. There may not be only one way of acting. Interventions may involve taking a personal risk, therefore it is important to know how to make well informed assessments and decisions. Making a contribution does not require being a daredevil. The act of assessing a situation as displayed in these interview excerpts can – from a governmentality perspective – be understood as a combination of external guidance and self-regulation, which becomes manifest in how different forms of information are engaged with. In the context of informing about CPR, instrumental guidelines enable resuscitation expert organisations to guide the actions of lay rescuers; they set the standard for the measures that are to be carried out. They absolve lay rescuers from responsibility. Yet, interpretation of contingent and corporeal information of the situations are means by which lay rescuers guide themselves in emergencies and can thus be seen as a way of placing responsibility upon lay rescuers after all. Hence, these forms of apparently contradictory information guide the conduct of lay rescuers. Information in the form of the social modality of information, negotiated and mediated during classes, can be said to lay out norms for what constitutes desirable conduct. By using their own senses and bodies, i.e. the corporeal modality of information, participants can assess both the situation at hand and their own performance, and thus guide their own conduct. While the different forms of information could be thought of as conflicting – as informing about different things –, they can also be understood as facilitating the shaping of lay rescuers by spreading principles according to which CPR class participants can guide their own conduct; a code of conduct that does not conflict with that stipulated by the CPR guidelines.

Towards the end of class, the skills participants have been practicing and talking about are often summed up as giving a sense of security. This also includes references to what can be understood as different notions of information. Lena makes reference to the instructive book she handed out at the beginning of class as she tells the participants: "take care of the book[13], it's valuable, now you have knowledge though I hope you'll never

13 On Lena's courses, participants are given a textbook with CPR instructions, produced

have to use it" [OB 15]. Karin's classes end with a similar reflection and reassurance. She asks the participants about the things they have learned and practiced: "Do you feel at ease and secure with all of this?" The response is not overwhelming, but a few participants mumble that they do. "We teach you something we hope you will not have to use" Karin continues, "but if something happens I think you'll feel a little better prepared" [OB 16].

In becoming prepared, participants have been informed in a number of ways, through exercises and discussion – some have seen instructional films and others have been given instruction books for CPR measures. Some have shared personal experiences and thoughts, ideas about the future and about what kind of person they would like to be in emergency situations involving cardiac arrest. The instrumentality of the posters and images they first met in the classroom has been transformed into hope and presumably also a sense of security.

•••

The reality of cardiac arrest and CPR classes seems full of contradictions. Although occupational health and safety legislation offer a framework for the development of certain routines for teaching CPR skills this framework does not by itself make people attend classes. Among those that do attend, their reasons for doing so are often not to do with occupational health and safety. Examples in this chapter have illustrated how the will to help, the establishment of a moral standard, and the role of different types of information in making assessments in emergencies can be thought of as technologies by which participants in CPR classes operate on their own conduct. These three themes are manifestation of techniques by which participants transform and regulate their ways of acting and who they want to be if they happen to find themselves in a situation witnessing a cardiac arrest. Not least this has implications for how they perceive themselves as lay rescuers. The willingness to help and make a contribution turn participants into lay rescuers with CPR skills. At first it may therefore seem like

by Lena's organisation. This is the book Lena is referring to.

a contradiction that participants so very explicitly acknowledge that "doing something" is a good enough intervention. This is even more the case when we take account of the fact that CPR is the only advocated resuscitation technique and standard intervention is cases of cardiac arrest. With respect to the moral standard that emerges as an opportunity for self-administration in class, this does not appear to conflict with the CPR standard. On the contrary, the moral standard sustains the lay rescuer's subjectivity even if the CPR standard has not been followed to the letter. It does not encourage not adhering to the standard. Disciplinary measures such as health and safety policies do not always succeed in creating lay rescuers, but they do provide a platform, in the form of classes, during which self-technologies that shape self-regulating subjects are mobilised. The way in which the shaping of lay rescuers is enabled by self-regulation and discipline or control implicates information in many shapes and forms. What has been discussed here can also be seen as an example of how issues of power and control operate in activities of informing, of creating and using information (e.g., Sundin and Johannisson 2005).

This chapter has shown how different notions or types of information can shed light on how different forms of steering and administration operate. Both discipline and self-regulations became manifest in how people relate to CPR and information about it. Information framed as knowledge or the content of a message is meant to do disciplinary work, while the negotiations occurring in acts of storytelling and the carrying out of practical exercises are means by which participants themselves regulate and enforce certain conducts and attitudes. This chapter has illustrated how information in various forms provides the opportunity and space for negotiations of something standardised.

7. Summarising and concluding

The aim of this dissertation is to explore how standardised information is situated and the bystander CPR standard is configured in practices. For accomplishing this aim I have followed a specific standardised piece of information, namely the bystander CPR guidelines, and looked into how these are enacted in practices of lifesaving and lay CPR training. As stated in the introductory chapter, the understanding of information as necessarily situated contrasts with ideas of uniformity and universality associated with standards. More reflective conceptualisations of standards and standardisation have emphasised the performativity of standards; what they do in addition to what they represent (e.g., Bowker and Star 1999; Star and Lampland 2009). My inquiry into what the bystander CPR guidelines do and how they are carried out in practice have been inspired by such understandings of standards and guided by practice theory as outlined by Shove, Pantzar and Watson (2012), as well as by practice theory as applied by other Information Studies scholars (e.g., Cox 2012; 2013; Haider 2011; Lloyd 2009b; Veinot 2007). In the empirically based chapters various configurations and enactments of resuscitation have been identified as resulting from the linking of the actual resuscitation techniques to elements of meaning, competence and materiality in the practices of lifesaving and CPR training. In the activities aimed at making CPR skills, as defined by the standard, known among the lay public, information featured in many ways and informing took many forms.

The rest of this concluding chapter is structured around the research questions that guided the study and brings together aspects from the different empirically based chapters in order to foreground the most import-

ant findings. It concludes with a final section pointing to some future research.

Situating the bystander CPR guidelines in practice

For understanding in what ways the bystander CPR standard is configured and situated in practice I draw primarily on conceptualisations and understandings of standards (e.g., Bowker and Star 1999; Star and Lampland 2009; Timmermans and Berg 2003) and on how Shove, Pantzar and Watson (2012) have conceptualised the constituting elements of practices and the dynamics of practices. By approaching the bystander CPR standard, lifesaving and resuscitation training from a practice perspective I have shown how links to other components than the guidelines are made, and how various configurations of lifesaving and enactments of the standardised CPR guidelines are possible in practices of CPR training and lifesaving. In accordance with the practice-theoretical perspective enactments are seen to occur as links between circulating elements of meaning, materiality and competence are made (Shove, Pantzar and Watson 2012).

The idea that it is possible to reverse the dying process and that this is also desirable on most occasions has been essential for the success of CPR in terms of its dominance as a resuscitation technique and its extensive distribution (Timmermans 1999). The idea that resuscitation is possible and always desirable also appears unquestioned in the material presented in the empirical chapters, and can be conceptualised as an element of meaning linked to the CPR standard in the practices of lifesaving and resuscitation training. Although the belief in the possibility of resuscitation remains unquestioned, it has over time been associated – before the establishment of CPR as the only accepted resuscitation method – with several techniques, which in turn have been questioned and abandoned.

In the third chapter I looked at how resuscitation techniques have changed over time. By the mid-20th century, CPR dominates completely and is regarded as the only correct technique. In the years that followed, CPR and phenomena associated with CPR were subjected to additional

standardisation, some of which can be identified in the 1974 publication "Standards for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiac Care". Timmermans and Berg (2003) have pointed out that standardisation of medical treatment procedures has increased since the 1980s, following demands from patients for equivalent treatments independent of health care provider. The development of standards has also been a way for newer specialisations in medicine to gain recognition from the medical establishment. Standardised guidelines are thus a common way of presenting and authorising the use and practice of medical knowledge (see Timmermans and Berg 2003). During the formalisation of resuscitation to become synonymous with CPR other standards have also been appropriated and additional ways of formalising the knowledge and know-how about resuscitation and lifesaving interventions have appeared. In the fourth chapter, this was exemplified by the Swedish national CPR register, the CPR training register, the defibrillator register and the formal representation of the *Chain of Survival*, which is a linear and instrumental account of how cardiac arrest treatments are to be carried out. This specific visual representation and the various registers were also shown to be implicated, in different ways, in enactments of bystander CPR in this study. The elements of competence, as outlined by Shove, Pantzar and Watson (2012), comprise practical skills about how something is done and how performances are evaluated. In the everyday practices in focus in Shove's and her co-authors' examples, such practical know-how is commonly something that is transformed over time and that can evolve and change through its incorporation in enactments of practices. The fact that the measures for resuscitation are standardised by definition forecloses modifications of the measures by instructors or lay people alike. Changes to these are mandated by medical expertise and expert organisations. However, this does not prevent lifesaving and CPR training to be enacted in different ways as we have seen.

The uniformity that is believed to ensue from the standardisation of procedures can be contrasted with the understanding of practical know-how as something that is usually transformed when circulating. Competences travel through processes of abstraction and reversal (Shove, Pantzar and Watson 2012, pp. 48-53). There are many versions of CPR abstractions

in existence and in circulation. One such example is the image of the *Chain of Survival* that situates bystander CPR and lay rescuers within a flow of medically defined procedures of how a successful resuscitation is achieved. In classes, abstractions of the know-how about how to resuscitate also occur in the shape of instructive posters or verbally mediated instructions. The posters and verbal instructions all account for steps and measures but lack the circumstances of interventions or the possible feelings of the rescuers.

When abstractions are reversed, competences are typically modified (Shove, Pantzar and Watson 2012). The CPR guidelines are meant to become the lay public's embodied know-how through first aid and CPR classes in which the procedures of the standard are demonstrated, practiced and talked about. In the reversal of the CPR guidelines occurring in these classes, additional aspects to those encompassed in the standard are brought into play. In these moments of doing, the practices of lifesaving and CPR training are not only about following the standard.

The ways in which resuscitation skills are imparted to the lay public predates the CPR standard. In the third chapter I accounted for the ways in which the *Swedish Lifesaving Society* conveyed lifesaving and resuscitation skills to the lay public during the first half of the 20th century. The Society produced posters and print instructions but also organised classes and displays. Classes continue to be central to the distribution of resuscitation skills. In practical exercises and talks, abstractions of instrumental guidelines – today for CPR – are, in the terminology of Shove, Pantzar and Watson (2012) reversed and in this way situated in participants' lives and experiences. How this happens was addressed primarily in Chapters 5 and 6. In exercises and talk the performance of CPR was shown to be about a lot more than merely the measures of basic life support. Stories about familiar situations and contexts associate the standard with hopes and fears, which in practice theory terminology can be conceptualised as elements of meaning. In the *Swedish Lifesaving Society*'s yearbooks, as well, accounts of successful or failed rescues situated lifesaving in mundane and familiar contexts where lifesaving and resuscitation skills could prove useful.

In practical exercises where the standard is reversed, knowledge of how to resuscitate and how to evaluate situations and one's own performance become assimilated, and lifesaving is situated in familiar settings. Comparing the ways in which resuscitation skills are imparted to the lay public today with how the *Swedish Lifesaving Society* operated, many aspects of training and distribution remain recognisable, even if the preferred resuscitation technique has changed a number of times since the *Swedish Lifesaving Society* began their work.

As stated already in the introduction, this dissertation challenges understandings of information as universal and objective and advocates instead a view of information as situated in practices (see Haider 2011; Lloyd 2012; Rivano Eckerdal 2012; Veinot 2007). This also encompasses how the CPR standard is approached here. A comparison between the configuration of lifesaving appearing in the 1974 text and that which features in the yearbooks of the *Swedish Lifesaving Society* reveals differences not only with regard to favoured or advocated resuscitation techniques. In the Society´s yearbooks from the 1920s and 30s, resuscitation and lifesaving is associated with swimming and hygiene, which were practices intended to secure the nation by safeguarding the lives of the Swedish population. Resuscitation were particularly targeted at reducing deaths from drowning, thereby securing the nation's capital in the form of lives. In the 1974 publication, resuscitation is situated in a context which is about emergency cardiac care – about creating and organising a system with different actors and competences which, working as a whole, will save lives. This configuration of lifesaving included routines for emergency communication as well as CPR training. How these aspects of lifesaving practices later changed was illuminated in the discussion of the *Mobile Lifesaver Project*.

With the establishment of CPR as the universally advocated resuscitation technique, resuscitation was said to be simple to both learn and perform. No particular aids apart from the helpers' hands were needed (Kouwenhoven, Jude and Knickerbocker 1960). In real emergencies, nothing but the rescuer's body is required to perform basic life support. The lay rescuers, actual people, are thus the most important material element in the enactment of the CPR standard in classes as well as in real emergencies.

The different chapters have described and discussed ways in which such

skilful bodies were meant to be formed through informing activities. In Chapter 4 I also touched upon how lay rescuers are circulated through a specific project, the *Mobile Lifesaver Project*. In discussing this I showed how the bystander CPR standard was connected to a number of other standards which, taken together, enable the actual enactment of resuscitation efforts, as instances of actually engaging in lifesaving, by bringing rescuers and casualties together in time and space. In the nesting of standards and through tracing linked elements of meaning, competence and materiality the apparently simple way of resuscitating – made up of compressions and ventilations – appears as a configuration of standards, technologies, activities and their cultural interpretations pertaining to hope and the expectation of the lay public's participation.

The configurations of lifesaving appearing in the 1974 text and in the *Mobile Lifesaver Project* both aim at providing quick help to casualties. Even if many components are similar in comparing these configurations – e.g. the emergency call, the compressions and the ventilations – the inclusion of other components, such as lately smart phones, demonstrate how there can be different configurations of lifesaving despite the resuscitation technique remaining unchanged. Possibilities for changes in lifesaving practices are not completely controlled by international resuscitation organisations. The configuration of resuscitation in the *Mobile Lifesaver Project* is one in which infrastructures of smartphones and mobile phone positioning systems were connected to values of compassion and being a helpful neighbour and citizen, an issue I will return to when answering and discussing the third research question. In addition to hands and skills, which were previously pointed out as the only necessities to resuscitate, now smartphones can also be seen as artefacts useful for saving lives. The *Mobile Lifesaver Project*, I argue, connects the everyday life of lay rescuers to resuscitative interventions through standards of different kinds and practices of documentation. The project was described as not only enabled by the nesting of standards and the integration of standards in practices, but also as dependent on notions of being a good neighbour and community member – a person both willing and able to intervene. The *Mobile Lifesaver Project* can thus be described as a configuration of lifesaving and resuscitation resulting from the amalgamation of cultural understandings

and technical and material arrangements.

Lay rescuers are needed to initiate the lifesaving chain. In the CPR classes described and discussed in Chapters 5 and 6, the instrumental standard is to become the lay rescuers' own skills; his or her body and senses are the only instruments and tools required to make the supposed difference between life and death. During CPR classes the instrumentality of the instrumental guidelines is not what is in focus. In discussions and conversations it is not so much the linear story of lifesaving depicted in the *Chain of Survival* that emerges, instead the skills are situated close to everyday and personal life. Through the telling of stories and anecdotes, CPR skills are linked to hopes and to the aspiration of being able to make a difference. The stories connect the instrumental standard to everyday situations and contexts such as exercising or work, and bring familiarity to the abstract and instrumental information in the guidelines.

An assumption in discussions about the implementation of the *Mobile Lifesaver Project* in Skåne, also occasionally voiced by those taking part in CPR training classes, was that having the know-how to perform CPR equals being able to make a difference and being able and willing to intervene at any time. Just as in Singleton's (2005) and Timmermans' (1999) studies, the understanding that the right thing to do when cardiac arrest occurs is to restrain the dying process by engaging in CPR remains firm and unquestioned. The possibility that there might be other ways of handling or acting in events of cardiac arrest than engaging in CPR is not brought up in classes (see also Singleton 2005; Timmermans 1999).

In the bystander CPR classes I observed, instructors cited health and safety concerns as the justification for organising these classes. However, this view did not appear to be shared by all participants. As discussed in Chapter 6, many participants saw the value and meaning of CPR skills as extending beyond the workplace, as something that would benefit society at large. Although this study does not seek to evaluate the efficiency of CPR in terms of lives saved, I showed in Chapters 4, 5 and 6 that the prospect of being able to save lives is sufficient to make classes meaningful. Actual evidence about the efficiency or outcomes of resuscitative endeavours are not requested in classes, nor is it offered by instructors, which is quite remarkable considering the vast amounts of data about cardiac arrest

and CPR that exists in registers and is analysed by the many international resuscitation organisations. In enactments of resuscitation during bystander CPR training, information commonly referred to as "facts", such as survival statistics and similar, was not requested, nor were medical evidence of the efficacy of CPR, or the latest medical findings on the topic. This kind of information seemed to be of little relevance in the context of CPR training, which is interesting considering how important scientific studies and results are in the context of consensus meetings of international resuscitation organisations. The practical know-how of basic life support, though derived from medicine, appears in classes as an offer of hope and security. The process of transforming the instrumental guideline into a widely distributed know-how among the lay public through CPR training encompasses engagement with information in different forms.

Information enmeshed across enactments of resuscitation

Throughout this dissertation I have highlighted how information features in many forms across the practices of lifesaving and CPR training, in the moments in which the CPR standard is enacted in exercises. Saving more lives involves the need, compilation, distribution and use of information in many forms. Informing plays a central role for many of the organisations involved, including the development of instructional material and the imparting of resuscitation skills to the lay public. It also encompasses the creation of information in the form of data about CPR and cardiac arrest, which is compiled in national registers. Just as in previous studies where information has been approached as situated in particular practices, contexts or communities (e.g., Haider 2011; Lloyd 2009a; Rivano Eckerdal 2012; Veinot 2007), also in practices of lifesaving and CPR training have acts of informing or becoming informed appeared as something else than just a matter of transmission between senders and receivers.

In showing how information is enmeshed across the practices of lifesaving and CPR training, I have been inspired by previous studies of information in social practices which have highlighted the importance of not

separating information from the practices in which it occurs (e.g., Cox 2013), how everyday-like activities make information meaningful (e.g., Haider 2011), and how the senses and bodily experience mediate information (e.g., Lloyd 2007; 2009a; Veinot 2007). In addition to previous research on information in practice and information practices, I have found the terminology of information modalities introduced by Lloyd (2007; 2009a) particularly useful. This terminology has been used to conceptualise and capture different ways in which information appears, occurs, is used and accessed – without subscribing to rigid conceptualisations of what information is or can be, or to conceptualisations that are too closely connected to particular media. What I have sought is a vocabulary that offers a way of remaining close to the empirical material. I have used the modalities as filters to zoom in on the ways in which information is enmeshed across enactments of resuscitation and resuscitation training. The terminology has also been useful for inquiring into the consequences of different forms of information, which is something I will return to also when answering and discussing the third research question.

In discussing the first research question I accounted for ways in which casualties, technologies, hope, lay rescuers, notions of being helpful and the skills of CPR were linked together in enactments of the CPR standard in classes. In these, information in the instrumental, social and corporeal modalities can be traced and identified. In answering this second research questions I suggest, as will be justified and explained in what follows, that the ways in which information occurs in CPR training and lifesaving practices, how information is accessed and created, does not only impart practical skills but also enables a coherent and shared understanding of what participants and instructors are participating in.

The instrumental modality of information figures in classes in the form of instructive posters or textbooks, but it can also be mediated verbally by instructors. This kind of information not only aspires to be general and universal, it is also content-oriented – and this content is developed by resuscitation organisations, as described in Chapter 4. Similar to Lloyd's (2007; 2009a) studies, this kind of general information that aspires to be universal introduces participants in classes, to a certain kind of know-how which is later meant to be enacted in practices, here lifesaving and CPR

training. While instrumental forms of information introduce participants to these practices, the standard becomes their knowledge and guide to lifesaving through engagements with forms of information such as stories, discussions and practical exercises.

Information mediated by way of CPR class participants' bodies and senses is only at their disposal when the exercise actually happens. What breathing sounds like or how it can be identified, what accurately executed compressions and ventilations feel like to perform, are not experiences mediated by instrumental instructions, but by exercises where participants use their own bodies in ways they are meant to use them when intervening in real emergencies. As I touched upon when discussing the first research question, such exercises do not necessarily lead to an automated know-how. In the training situations I observed, it was clear on many occasions that some of the participants were worried about failing in an emergency situation. "Failing" here meant not remembering exactly how to perform the measures practiced in class, or not being able actually to save the life of the casualty. In dealing with these kinds of worries, participants and instructors engage with forms of information like discussions and joint reflections.

Moral accounts of what it means to know CPR take shape in discussions and storytelling. In the exercises, and in the real life events imagined during classes, it is not so much a question of doing what the guidelines stipulate. In discussions and conversations, the lay rescuer emerges as a person who doesn't necessarily perform CPR with excellence and precision, in complete accordance with the standard, but as someone who has adopted a certain attitude – a willingness to help. Shared values about what being a lay rescuer is about are established and confirmed (see also Lloyd 2007; 2009a). The social modality of information also figures in another form: as stories and anecdotes with happy or disastrous endings. By telling such stories, instructors highlight the importance of acquiring CPR skills and the notion that simply attending a class can determine the difference between life and death. In the contexts of lifesaving and lay CPR training, the social modality of information mediates hope and comfort, and the consolation that it cannot be determined beforehand whether correctly administered CPR will save a life or not. It also establishes the understand-

ing that if the intervention does not lead to a life saved one should not blame oneself. In such stories and joint reflections, information is negotiated and mediated which does not primarily concern the measures of the standard. In the practice of CPR training, another consensus than that established by expert resuscitation organisations is established: that it is better to do something than nothing. That "something" does not necessarily have to be exactly what the guidelines say. This consensus is reached as practical exercises unfold, as procedures are embodied or not, as stories are told and exercises are reflected upon.

Stories, reflections and discussions also situate the CPR standard in recognisable circumstances and mediate values and ideas that make the acquisition of CPR skills appear an urgent and important matter. In activities, an account of resuscitation emerges that differs from how the same procedures are situated in a medical context like the *Chain of Survival*. During CPR training it is often acknowledged that procedures are not always perfectly carried out and do not necessarily lead to the most desired outcome: saving a life. Classes are opportunities for participants and instructors to reflect on their own roles, and to negotiate what constitutes correct behaviour in the event of an emergency.

Thinking of information in terms of modalities has been useful for addressing how the standardised and supposedly universal guidelines in practices are transformed into different types of information and that these also inform about other things than the measures making up the CPR standard. The terminology of information modalities should not be seen as all-encompassing; it does not seek to cover all things and activities that can be informative, but it does point out interesting aspects of how information and informing can be understood and conceptualised by grouping different aspects of information as either aspiring to be general, highly contingent and embodied, or socially shared. By bringing together and distinguishing between these aspects of informing, resuscitation has been shown to be not only a standardised know-how but also a kind of socially organised knowledge. Paired together standardised and socially organised knowledge guide lifesaving interventions and provide a framework for interventions and thereby also for the conduct of lay rescuers. The various forms of information and informing highlighted by the information mo-

dality terminology also raise questions about how different forms of information and informing are connected to different ways of managing conduct and different rationales behind them.

The shaping of lay rescuers

Previous studies into information in practice have shown that identities and membership of particular communities are shaped and strengthened by ways in which information is created, sought and shared; that engaging with information as it happens in practices shapes identities and subjects (e.g., Lloyd 2007; 2009a; Pilerot 2014; Rivano Eckerdal 2012). The role of standardised information in managing conduct by shaping subjects has however not been investigated.

The issue of the shaping of the lay rescuers was addressed primarily in Chapters 3 and 6: how the role of the lay public in lifesaving emergency situations was construed in the yearbooks of the *Swedish Lifesaving Society* during the first half of the 20th century and how it is construed in contemporary lay CPR training. The third research question concerns a particular aspect of the discussion following from the previous research questions: how subjects willing to intervene are shaped in enactments of resuscitation, and what role information and informing plays in this.

In the *Swedish Lifesaving Society*'s work and mission during the 1920s and 30s, resuscitation skills were intended to reduce the number of deaths from drowning. The same skills were also associated with modern endeavours of making the Swedish population clean and healthy. In the *Swedish Lifesaving Society*'s yearbooks from the 1920s and 1930s, the distribution of resuscitation and lifesaving skills was described as aimed at creating a large community of lifesavers who could preserve and protect the nation simply by knowing how to resuscitate. Thinking in terms of bio-power (Foucault 1978), the *Swedish Lifesaving Society* can be described as an actor that executed a disciplinary form of bio-power, by distributing and imparting lifesaving and resuscitation skills. Their work sought to improve the health of the population, and ultimately the progress of the nation state, by advocating and distributing resuscitation and lifesaving skills that were intended literally to save lives. Informing about lifesaving and resuscitation

can thus be said to constitute a way of managing life and by that the population and the nation. In later chapters, resuscitation and resuscitation training was embedded in a different setting for managing life namely occupational health and safety.

In discussing lay involvement in contemporary resuscitative efforts, and how participants in bystander CPR classes are shaped into lay rescuers, I have used the notions of governmentality and self-technologies. The *Mobile Lifesaver Project* was shown to extend the possibilities for lay rescuers to participate in resuscitative efforts through the nesting of different kinds of standards and the integration of infrastructural standards into lifesaving practices. In addition to being positioned as a means to initiate the *Chain of Survival* faster, this project can be seen as putting more responsibility on lay rescuers to engage in resuscitative endeavours. One could argue that signing up to be a mobile lifesaver is a voluntary act and an individual choice. My argument is that this is not a matter of choice, but something, which can be understood in terms of governance through self-regulation. The understanding of governance as operating through self-technologies by which individuals direct their own conduct in accordance with externally imposed directives (Foucault 1988) illuminates how voluntary acts like signing up to be a mobile lifesaver are in fact ways of governing the population. In this case the self-technologies operating in bystander CPR classes shape subjects that comply with understandings of how cardiac arrest events should be dealt according to academic medical expertise and international expert resuscitation organisations. Signing up to take part in the project can be understood as offering to become a lay rescuer, i.e. someone who has not only acquired CPR skills, but also the attitude and willingness to intervene and take action at any time. In involving the lay public in procedures determined and set out by medical experts and international resuscitation organisations, the lifesaving chain facilitated by infrastructural standards also brings resuscitation and lifesaving into the everyday life of lay rescuers by making use of smartphones, already ubiquitous, for initiating lifesaving interventions.

The connection between informing and governance is not just a consequence of evolving infrastructural standards and information technologies such as smartphones. The sixth chapter discussed how participants and

instructors engaged with different types of information in class, and I suggested there that different notions of information, and ways in which information is mediated and accessed, can be understood as different forms of governance and control.

In the conceptualisation of information as being of different modalities, variously concerned with content, form and way of mediation, connections emerge between these and different forms of governance. In terms of informing and information, the disciplinary form of governance was manifested in instructive information or as information in the sense of knowledge or the content of messages. When informing about CPR, this type of information occasionally did not have the intended effect, which was illustrated by how class organisers and occasionally also participants experienced difficulties in making people attend (see also Haider 2011; Rivano Eckerdal 2012). However, what appears to have governed attendance to a much larger extent than disciplinary measures, such as occupational health and safety regulations or emails about class scheduling, was the will among participants to help and to make some kind of contribution – which can be conceptualised as technologies of the self (Foucault 1988). Rather than instructing, information engaged with in exercises, discussions and storytelling appeals to participants' values and sense of responsibility. This type of self-regulating technology, in the form of skills and attitudes (Foucault 1988), could be seen in classes in the form of joint reflections and discussions about how participants should act as lay rescuers. Attending classes was not seen as something participants did against their own will, but as empowerment and an opportunity to become a skilled lay rescuer. In discussions and exercises concerning the conduct of lay rescuers, a different standards than that of basic life support was seen to be guiding participants' conduct. Other aspects of conduct were incorporated into the role of lay rescuers: the will to help and to do one's very best. In the training situation, other types of information than instrumental were shown to reinforce the lay rescuer's attitude, and not only his or her skills. In Chapter 6 I referred to the standard which emerges in engagements with information – and which can be described as the social modality of information – as a moral performance standard that outlined the moral conduct of lay rescuers rather than the actual measures to be performed.

Different notions of information and how informing occurs are connected to how disciplinary and the self-regulatory techniques are manifested in the formation of lay rescuers. I suggest that instrumental information and information understood as the content of a message operate in disciplinary ways. Other ways of informing and engagements with social or corporeal modalities of information do to a larger degree, in terms of governance, self-regulatory work. I do not mean to suggest that this is a causal connection, which is the same in all practices. What I want to point out by discussing this connection between forms of information, here framed as different modalities, and how governing rationalities plays out, is how a widened understanding of information as not just something transmitted between senders and receivers, but as something modified and distorted in practices, can be operationalised in studies of practices. My discussion, mainly in Chapter 6, highlights how the same governing rationalities that permeate the practices of lifesaving and CPR training also permeate the informing activities, and ways in which information occurs, within these practices.

Breathing life into a standard

In different ways, the empirical chapters have all examined particular instances, moments of doing in which the bystander CPR guidelines become situated, i.e. moments in which resuscitation becomes something more, or something other, than the procedures described in the standard. These are moments in which members of the lay public establish a relationship of their own with this particular body of knowledge, making them subjects of knowledge and not merely recipients. These moments were also shown to be instances in which the skills of lifesaving are situated within a larger societal context. Basic life support comes metaphorically to life through exercises and discussions during which this abstraction is reversed, in connections to familiar situations, larger societal projects and in exercise during which the standard is meant to be situated in the bodies of those taking part in CPR training.

This connection between notions of information, ways of informing or engaging with information and different techniques of governance, is an

issue that I suggest should be addressed more extensively and explicitly within the discipline of Information Studies. Specifically, bringing together such a perspective with a practice-theoretical understanding of how information features in social practices, this kind of inquiry could have implications for individuals or organisations that actively seek to reach out and inform about something particular. A practice-theory perspective brought together with the notions of governmentality and technologies of the self, has been shown to be useful for identifying more precisely how governance operates in practices in which information is created, made sense of, distributed and used, as well as for exploring the connection between different understandings of information and governance. Identifying how information and informing are and can be enmeshed across particular practices could prove useful in many different areas, not least those related to health. For instance, information on how to live healthily, or how particular diseases or health problems can be identified, is often encountered in the media. What makes certain messages attract more attention or have bigger impact on what people actually do, and what makes people change or maintain particular ways of acting after engaging with information in different ways and forms could be fruitfully investigated with such a perspective. This calls for research on how this plays out in empirically diverse practices and of how different ways of imparting or making sense of information are connected with different conceptions of governance. Such studies could lead to better understandings of how ways of informing transform external demands into individual concerns, alternatively how they fail to do so.

I wrote in the introduction that standards are rarely studied ethnographically in Information Studies. This might have to do with the way in which standards are seen to be fixed and not sociable which make them appear unsuitable to be studied using a method commonly associated with the study of people and cultures. However, standards are, as already Bowker and Star (1999; 2000) have shown, deeply social, both structured by and structuring society. This has also become apparent here. The ethnographic approach adopted has helped to illuminate how information and informing occur. This was shown not only to happen when the content of the standard was conveyed but also through its association with other stan-

dards and integration with practices that occurred as the guidelines moved across space and time. Tracing these various enactments and configurations have made the friction that arise from the meeting of a standardised piece of information with its practices tangible. This has not only shown that CPR is more than a technique, but how it is more than that and that it is nothing without it.

Swedish summary/ Sammanfattning på svenska

Att ge liv åt en standard: konfigurationer av återupplivning i praktiker som informerar allmänheten om hjärtlungräddning

Den här avhandlingen undersöker mötet mellan en standard och de praktiker i vilka standarden iscensätts. Studiens empiriska utgångspunkt är riktlinjer för allmänheten för hur man ger hjärt-lungräddning (HLR). Dessa riktlinjer följer en standard framtagen av internationella expertorganisationer inom området återupplivningsmedicin. Studien fokuserar särskilt på hur informationsaktiviteter sker och information förekommer i iscensättningar av standarden. De standardiserade riktlinjerna för hjärt-lungräddning beskriver en procedur bestående av medvetandekontroller, kompressioner och inblåsningar. Dessa åtgärder utgör den enda idag förespråkade och använda återupplivningstekniken. Syftet med avhandlingen är att undersöka hur den här standarden framträder i de praktiker genom vilka den förmedlas till allmänheten samt hur och i vilka former information är invävt i dessa. Studien utgår ifrån en förståelse av information som situerat, dvs. som format av de sociala och materiella omständigheterna i vilka information skapas och används, omständigheter från vilka information inte heller kan separeras (se ex. Haider 2011; 2012; Rivano Eckerdahl 2012; Veinot 2007). Den här förståelsen av information blir särskilt intressant då studiens syfte är att undersöka hur just standardiserad information omsätts i praktiker som är dynamiska och lokala. Avhandlingens syfte är uppdelat i tre frågeställningar:

1. På vilka sätt konfigureras och situeras HLR-standarden i praktiken?
2. Hur är information inskrivet i uppföranden av återupplivningsstandarden?
3. Hur formas allmänheten till livräddare genom deltagande i uppföranden av återupplivningsstandarden? Och vilken roll spelar information i dessa formanden?

Studien bygger på material som samlats in genom observationer vid flertalet HLR-utbildningstillfällen arrangerade av två olika organisationer, en frivilligorganisation och en företagshälsovård. Utöver detta består materialet studien bygger på av olika dokument och texter skrivna och publicerade av organisationer som varit eller är involverade i förmedlingen av återupplivningskunskaper till allmänheten och i arbetet att uppdatera riktlinjerna för hjärt-lungräddning. Ett mindre antal intervjuer med personer som deltagit vid HLR-utbildningar har också gjorts. I det här materialet identifieras och spåras ett flertal olika konfigurationer av återupplivning. Konfiguration ska här förstås som det som framträder i skärningspunkten mellan materialitet, teknik och den kulturellt formade föreställningsvärlden (Suchman 2014). Konfigurationer av återupplivning innefattar alltså inte bara den teknik som används utan även föreställningar kopplade till detta fenomen och den betydelse återupplivning har och tillskrivs i ett större samhälleligt sammanhang. Att tänka i termer av konfiguration synliggör hur andra relationer mellan det kulturella och materiella är möjliga även om det som studeras utges för att vara universellt och standardiserat.

Inom biblioteks- och informationsvetenskap har tidigare studier om standarder framförallt fokuserat på klassifikationssystem, metadatastandarder eller kontrollerande vokabulärer (ex. Hansson 1999; Olson 2001; Samuelsson 2008 m.fl.). Andra typer av standarder förefaller vara outforskade. Inom andra vetenskapliga discipliner så som sociologi och vetenskapsstudier har däremot andra typer av standarder, bland annat medicinska standarder, studerats (ex. Timmermans och Berg 2003). Tidigare studier av standarder har visat att det ofta råder en diskrepans mellan de ideal standarder representerar och deras uppföranden i specifika situationer och praktiker (se ex. Bowker och Star 1999; 2000; Star och Lampland 2009; Timmermans och Berg 2003). I den här avhandlingen är den

redan uppmärksammade diskrepansen mellan standarder och praktiker en utgångpunkt. Vad som sker i mötet mellan HLR riktlinjernas standardiserade innehåll och de praktiker i vilka dessa riktlinjer uppförs i syfte att bli gemene mans egna förkroppsligade kunskap samt i vilka former information förekommer i dessa göranden står i fokus.

Studien är såväl ett bidrag till, som inspirerad av, ett växande forskningsfält som intresserar sig för hur information är inbäddat i sociala praktiker. Inom detta forskningsfält förstås informationsaktiviteter och den betydelse informationen får eller har som oskiljbar från den aktuella praktikens sociala och materiella ordning och sammansättning (se ex. Cox 2012; 2013; Haider 2011). Tidigare empirisk forskning inom detta fält har belyst hur information skapas och förmedlas i en mångfald olika praktiker och sammanhang. Matlagning som hobby (Hartel 2010), omsättningen av miljöinformation i vardagliga göromål (Haider 2011) och hur information skapas och förmedlas inom olika yrkesgrupper och professioner och deras arbetspraktik (ex. Lloyd 2007; 2009a; Pilerot 2014; Sundin 2003; Veinot 2007) är några exempel på företeelser som har studerats från detta perspektiv. Däremot har ingen tidigare studie inom detta fält studerat uppförandet av information som är standardiserad och styrd i den utsträckningen som riktlinjerna för HLR är.

Studiens analytiska ramverk består av fyra delar som på olika sätt kompletterar varandra och bridrar till att belysa skärningspunkten standarder, praktiker, information och hur de som deltar i praktikernas uppförande formas av dessa och omvänt. Praktikteori, framförallt så som den framställs av Shove, Pantzar och Watson (2012), används som ett perspektiv för att förstå och diskutera hur olika uppföranden och konfigurationer av de standardiserade riktlinjerna möjliggörs genom att peka på hur olika och föränderliga element länkas samman. En modifierad version av Lloyds (2007; 2009a) terminologi i vilken olika modaliteter av information beskrivs används för att belysa på vilka sätt information förekommer i uppföranden av standarden. Tidigare forskning om standarder som har en teoretisk förståelse av dessa som ligger nära praktikperspektivet har också varit användbar i analysen. Centrala teman i dessa studier som återfinns i såväl avhandlingens utgångspunkter som i analysen är förståelsen av standarder som att dessa formar ett utrymme för göranden samt att standard-

er skapar förutsättningar för utvecklingen av rutiner och praktiker (se ex. Bowker och Star 1999; 2000; Star och Lampland 2009; Timmermans och Berg 2003). För att kunna diskutera hur styrning, kontroll och makt är invävt i de praktiker genom vilken HLR-standarden blir gemene mans förkroppsligade kunnande används Foucaults (1978; 1988; 1991) begrepp bio-politik, dvs. de sätt kroppar disciplineras och befolkningen regleras genom skapandet av sammanställning av kunskap om exempelvis befolkningens hälsa och levnadssätt. Vidare används även den förståelse av styrning som inbegrips i begreppet governmentality (Foucault 1988; 1991), hur människor både styrs och styr sig själva, för att diskutera hur allmänheten formas till livräddande subjekt.

Avhandlingens fyra analyskapitel belyser olika konfigurationer eller uppföranden av återupplivningen och olika sammanhang i vilka kunskaper i livräddning och återupplivning iscensätts. I kapitlen följs återupplivningen genom de praktiker och rutiner för livräddning och livräddningsträning som fanns redan innan HLR-standarden till de göranden genom vilka den här standarden idag, bokstavligt talat, landar i allmänhetens händer.

I kapitel tre synas texter publicerade i *Svenska livräddningssällskapets* årsbok under första halvan av 1900-talet. Kapitlet visar hur återupplivningsstandarden har förändrats över tid och hur återupplivningskunskaper spreds till allmänheten innan hjärt-lungräddning blev den enda förordade och använda återupplivningstekniken. I kapitlet diskuteras även varför återupplivning blev en fråga för den bredare svenska befolkningen under första halvan av 1900-talet samt hur information om återupplivning förmedlades till allmänheten av *Svenska livräddningssällskapet*. Detta kapitel belyser även hur livräddning och *Svenska livräddningssällskapets* arbete kan förstås som en manifestation av en bio-politik som, i Sverige under 1900-talets första decennier, syftade till att förbättra befolkningens hälsa och hygien och på så sätt bidra till att skapa en arbetsför population och stark nation.

I det fjärde kapitlet är fokus på senare konfigurationer av återupplivning. Hjärt-lungräddning har här kommit att bli den enda och universella återupplivningstekniken. Kapitlet beskriver delar av den administration och formalisering som sker runtomkring de till synes enkla åtgärderna som utgör riktlinjerna för hjärt-lungräddning och hur den här standarden får-

das från internationella återupplivningsorganisationer till *Svenska HLR-rådet* för att sedan föras vidare till allmänheten genom olika lokala organisationers arbete. I de standardiserade riktlinjernas omgivning återfinns en mångfald andra standarder som separat eller då de länkas samman sätter gränser och skapar möjligheter för allmänhetens deltagande i ingripanden vid hjärtstopp. Projektet *SMS-livräddning* diskuteras särskilt som ett exempel på en konfiguration av livräddning som framträder i länkningar av det praktiska kunnandet att ge hjärt-lungräddning, informationsteknologier, infrastrukturer samt värderingar om medmänsklighet och omtanke.

I avhandlingens femte och sjätte kapitel diskuteras och analyseras materialet som samlats in genom observationer och intervjuer. Här följs standarden genom träningspraktiken där den överlämnas till allmänheten och ska bli till kunskap situerad i kursdeltagares kroppar och liv. Kapitel fem diskuterar HLR-kursens rutiner och visar på hur information, begripliggjort som olika modaliteter, mobiliseras och engageras under kurserna. Här visas också hur olika former av information ger en vidare innebörd till den livräddande praktiken än det strikta fokus på specifika åtgärder som beskrivs i de standardiserade riktlinjerna för hjärtslungräddning. Genom praktiska övningar, i diskussioner och berättelser skapas en delad förståelse om vad ett ingripande i en akutsituation handlar om. Under kursen länkas de kunskaper som beskrivs i standarden till vardagen och familjära situationer, till förhoppningen att kunna rädda liv. I diskussionerna och berättelserna är det andra aspekter av ingripanden än de faktiska åtgärder som ingår i standarden som sätts i fokus. Det handlar allt mer om hjälparen än den drabbade, om hjälparens moraliska ansvar. Detta diskuteras vidare i det sjätte kapitlet som belyser hur information i olika skepnader, eller begreppsliggjort som olika modaliteter, kan kopplas till olika former av styrande. Instrumentell information, eller information förstått som kunskap eller innehållet i ett meddelande framträder under HLR-kurserna som associerade med en disciplinerande form av styrning. Information som framträder och tar form i samtal och berättelser samt information som bara finns att tillgå i stunder av göranden som kroppsliga förnimmelser eller sinnesförnimmelser fungerar som självregleringstekniker genom vilka kursdeltagare leder och styr sig själva.

I kapitlet lyfts tre exempel på hur detta manifesteras fram. Dessa sammanfattas som deltagarnas vilja att göra en skillnad, en moralisk standard som förhandlas fram under kursernas gång och beskriver önskvärt agerande vid ingripanden utifrån moraliska utgångspunkter snarare än ett specifikt praktiskt kunnande samt i kursdeltagare funderingar kring hur man gör bedömning i akuta situationer.

Samtliga kapitel visar på olika sätt hur de standardiserade riktlinjerna för hur man utför och ger hjärt-lungräddning blir till kunskap situerad i såväl individuella liv, familjära omständigheter som i större samhälleliga sammanhang. I uppföranden i övningssituationer får den instrumentella standarden ytterligare innebörder. Genom att studera görandet av det som beskrivs i HLR standarden visar den här avhandlingen hur rutiner och praktiker tar form och förändras runt det till synes universella och kontrollerade. Den etnografiska ansatsen och det praktikteoretiska ramverket har bidragit till att belysa hur information skapas och formas i lokala situerade göromål. Studien visar hur standarden för hjärt-lungräddning länkas till hopp och teknologier i strävan att göra detta till en intervention som allmänheten kan utföra. I dessa länkningar framträder andra konfigurationer av hjärt-lungräddning än den som framställs i instrumentella beskrivningar av de åtgärder som ingår. De sätt som information görs och förekommer på i dessa strävanden visar sig ha återverkningar för formerandet av livräddare bland allmänheten. Studien lyfter härigenom frågor som handlar om hur standardiserad information konfigureras i praktiker och hur olika sätt på vilka information görs och förekommer är kopplat till olika former av styrning.

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