How should the protection of privacy, threatened by new technologies like radio frequency identification (RFID), be seen from a Judeo-Christian perspective?

A dissertation by

Erwin Walter Schmidt

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Supervisor: Prof Dr Puleng LenkaBula
Co-supervisor: Dr Dr Volker Kessler

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Summary

Radio Frequency Identification (RFID) is a new technology which allows people to identify objects automatically but there is a suspicion that, if people are tracked, their privacy may be infringed. This raises questions about how far this technology is acceptable and how privacy should be protected. It is also initiated a discussion involving a wide range of technical, philosophical, political, social, cultural, and economical aspects. There is also a need to consider the ethical and theological perspectives. This dissertation takes all its relevant directions from a Judeo-Christian theological perspective. On one side the use of technology is considered, and on the other side the value of privacy, its infringements and protection are investigated. According to Jewish and Christian understanding human dignity has to be respected including the right to privacy. As a consequence of this RFID may only used for applications that do not infringe this right. This conclusion, however, is not limited to RFID; it will be relevant for other, future surveillance technologies as well.

Key terms:

Radio frequency identification, privacy, human rights, right to privacy, technology, information and communication technology, privacy enhancing technology, Internet of Things, data protection, privacy impact assessment.

Candidate's Statement

I declare that the dissertation entitled

"How should the protection of privacy, threatened by new technologies like radio frequency identification (RFID), be seen from a Judeo-Christian perspective?"

is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

November 18th, 2011   Erwin Walter Schmidt

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Abbreviations

ATM	Automated teller machine
AutoID	Automatic identification
BVerfG	Bundesverfassungsgericht (German Federal Constitutional Court)
BSI	Bundesamt für Sicherheit in der Informationstechnik (German Federal Office for Information Security)
CASPIAN	Consumers Against Supermarket Privacy Invasion and Numbering
CCTV	Closed circuit television
DNA	Deoxyribonucleic acid
EC	European Commission
ECHR	European Convention for the Protection of Human Rights and Fundamental Freedoms
EPC	Electronic product code
ESO	European Standardisation Organisation(s)
EU	European Union
GPS	Global positioning system
ICT	Information and communication technology
ID	Identification
IDV	Individuality index
IoT	Internet of Things
IT	Information technology
LL. M.	Master of Laws
LTO	Long time orientation
MAS	Masculinity index
OECD	Organisation for Economic Co-operation and Development
PC	Personal computer
PDI	Power distance index
PET	Privacy enhancing technology

PIA	Privacy impact assessment
RFID	Radio frequency identification
UAI	Uncertainty avoidance index
WLAN	Wireless local area network
WTO	World Trade Organisation

Introduction

Many people embrace the possibilities of new emerging technologies, but they also complain about the fast pace at which the world is changing. The majority of people feel insecure and overwhelmed by technological changes. Today these rapid changes are first of all caused by the rapid development of electronic technologies. One of the new technologies is radio frequency identification (RFID). RFID is considered to be one of the technologies that is beneficial for various industrial applications and applications in the consumer area. Companies use beneficial technologies in order to advance manufacturing and material handling processes. Competing companies try to gain their turnover and profit by providing new advanced technologies that find their buyers in the marketplace. There are economical changes within the industrial realm, and there are changes in the every day life of individuals.

There is a further implication with regard to this type of technology. RFID may be seen as part of *ubiquitous computing*, the expectation that computers are embedded into items of daily life everywhere. Objects with computers embedded may become active by communicating with things one another and acting autonomously. This system is referred to by some scholars as the *Internet of Things* (Dodson 2003, Fleisch & Mattern 2005, Mattern 2007). We can fully expect that RFID –and possibly its improvements– will further its ubiquitous influence in our lives and our workplaces.

1   The special case of RFID

Many new *information and communication technologies* (ICT) have in many instances, been developed and introduced into the market without any remarkable discussion. The situation has however been different with RFID. The marketing of this technology was extraordinary successful and it initiated a "hype" even taking discussion about it even into parts of the society that are normally not interested in technical issues. For example, even popular non-technical magazines published articles about RFID (Schmundt 2004, Focus 2003). There were even some anti-RFID activists who strongly opposed the introduction of RFID (Albrecht &

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McIntyre 2005 and 2006, FoeBud 2008). Politicians became involved, and in consequence political activities were initiated. It can be foreseen that RFID related legislation will be enacted in the future. Actually this is already under way in several states of the United States (Schmid 2008a:202). In Europe there are ongoing activities of the European Commission in Brussels that will lead to similar legislation in Europe (European Commission 2007a, European Commission 2008).

On the one side industry wants to apply RFID without any restrictions, and on the other side anti-RFID activists insist on prohibiting RFID completely. The anti-RFID campaigns ignore the fact that there are already important and wide spread applications of RFID like car immobilizers, access control systems, and anti-counterfeit devices, which protect properties, or save lives by preventing counterfeit pharmaceuticals (Koh & Staake 2005). If RFID were to be prohibited totally, those who oppose it would be "throwing out the baby with the bath water". RFID is an *ambivalent* technology which has the opportunity of good uses, but also has the prospects of misuse. This leads to the basic ethical question (relevant particularly within the field of theological ethics) of how we determine what is good and what is bad.

2   The subject of this dissertation

Occasionally people mention that there is an ethical aspect behind RFID. They are concerned that privacy will be infringed by means of RFID. RFID may be used to spy on people. So far, however, detailed and evaluative discussions or in depth examinations of the matter are missing. This is a remarkable gap as legislation has already been put in writing in order to limit RFID applications. When legislation is created without any ethical analysis or discussion it runs the risk of lacking a suitable foundation.

Legislation is only one of the outcomes of the RFID/privacy discussion. There are many other aspects to be considered. In general societies need ethical principles, norms and values on how to deal with the private sphere of individuals.

RFID related publications are often only technologically related. The solution relative to the question of privacy is normally seen in technical

countermeasures, and any other considerations are ignored. It is , therefore, urgent that this question be studied comprehensively from the ethical point of view, including the philosophical, sociological, juridical, and theological aspects. Of course, this dissertation will be limited to the Jewish/Christian theological perspective as stated in the topic of this study. It is equally important to note that, whilst the main focus will be on Jewish/Christian theology, we shall consider philosophical, sociological, and juridical approaches and examine their influence on the theological view.

3   Theological and ethical aspects of the question

The English expression *ethics* is derived from the Greek words εθος and ηθος meaning habits, conducts, or usual places (Kretzschmar 2004:17f, Lange 2002:212, Herms 1999b:1640). This corresponds to the Latin word *mos* from which the expressions *moral* or *moral* behaviour is derived from. Ethics is not understood a set of guidelines or moral rules how to behave, but it is the reflection about our actions and a consideration of questions what is good and what is wrong (Herms 1999a:1598). The aim is to take ethical decisions in order to perform right and good actions. A further aim is the moral formation of individuals and communities (Kretzschmar 2002:16).

Theological ethics especially considers theological, or Christian aspects in our case, when reflections on moral behaviour are carried out. "Theological ethics encompasses the entire field of ethical concern, but includes the important determinant of a *theological* framework of understanding" (Kretzschmar 2002:19). Here we can think of, for example, the Ten Commandments, Jesus' teachings in the gospels, and the instructions in the New Testament epistles. Theological ethics is not limited to Biblical teachings only. Jewish and Christian teachers like the rabbis and the church fathers and their writings are considered as well. Theological ethics will remain an incomplete project as new ethical questions rise owing to new developments like the technological development of RFID we discuss here.

Christian ethicists discuss many present-day ethical questions, such as abortion, capital punishment, education or human rights. So far, however, the

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question of individual privacy surprisingly seems to be absent from and nonexistent in Christian ethical thought or analysis. For example, data protection laws protecting private information have been in force since 1970 (Schmid 2008a:196) but there seem to be no official statements from the Christian point of view relative to these. Obviously there seems to be some backlog for Christians.

On the other hand, there are Christian statements which are militantly against RFID directly. RFID is, for example, cursed as the *mark of the beast*[1]. Christians are encouraged to avoid this technology (Albrecht & McIntyre 2006, for further references see section 5.1). It is necessary, therefore, to work out what these statements mean and how they can be judged in the light of Christian theology and ethics. Is it possible to formulate statements from the Christian point of view? It is the aim of this dissertation to find out whether principles based on Judeo/Christian thought can be found and statements can be made relative to this question. If there are such principles, they should then as second step be applied to the special case of RFID. Such an analysis should be completed before any action is taken. The American theologian and ethicist Stanley Hauerwas expresses this principle when he talks about the role of the church in social ethics:

> The social ethic of the church is, first of all, an affair of understanding rather than doing. The first question we must ask is not 'what should we do' but 'what is going on?' Our interpretation will determine what we are to do. Our task as church is the demanding one of trying to understand rightly the world as world, to face realistically what the world is with its madness and irrationality (Hauerwas 2003:102).

The actions against RFID seem to accuse the "world" of its "madness and irrationality", but the question "what is going on?" does not yet seem to have been carefully answered.

Behind the questions around RFID hide at least two further underlying questions. The first of these relates to the handling and protection of personal data.

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[1] For example, in 2008 a group of Amish and Pentecostal farmers filed a lawsuit against the US administration and the State of Michigan, claiming that RFID transponders are the mark of the beast (Kravets 2008 and Farm-to-Consumer Legal Defence Fund et al. vs. U.S. Department of Agriculture et al. 2008). John Connor, spokesman of a group calling themselves *The Resistance for Christ*, claimed that RFID is "the precursor to the Mark of the Beast" and "the Pandora's box of the Mark of the Beast" (Infowars 2005, The Resistance 2005). For further references see sections 2.3.5.4 and 5.1.

The rapid technical development in computer technologies has aggravated the situation during recent decades. This issue has, obviously, been ignored by Christian ethicists and there is a need for some catching up now if possible.

The second question concerns technical development in general. New technologies open new possibilities that have never existed before. Every new situation requires new ethical answers. There is a need for up-to-date *applied ethics* that hopefully provide directives on how we should deal with new technology. How far can Judeo-Christian ethics provide principles that can contribute to the applied ethics in question? Judeo-Christian ethics should be understood as consisting of deontological, teleological, normative, and virtue ethics. Other aspects, such as economical positions and utilitarianism will still have to be considered.

There is a need for a well-founded way that will enable suitable participation in the ongoing societal and political discussion about RFID and privacy. If Christians want to contribute to this debate, they have to elaborate their opinions and make a good case for their views. That can be achieved only by deliberate investigation. In contrast, the imperative "Stop RFID" is a claim which lacks ethical reflection.

The research question refers to Judeo-Christian views. The Jewish aspect is important because life and culture described in the Old Testament or the Tanakh as the Jews call it is more or less limited to one people and one society. For example, the Mosaic Law contains very detailed instructions for living that include many issues related to privacy. In contrast to the Old Testament, in the New Testament Christian teachings are given that are more or less culturally independent. The Christian message should be suitable for the whole world. Of course, Christianity itself had a culture-forming effect, but privacy aspects may be less clear or less clearly elaborated than they are in the ancient Hebrew society.

4 Relevance of this subject for the actual situation

As mentioned before, Theological Ethics should contribute to the current discussion about RFID and privacy. In order to do this the subject has to be considered carefully from a Christian point of view. On the one hand, if we ignore

this discussion, we end up in some kind of escapism that could lead to irrelevance; on the other hand, this discussion could provide an opportunity of bringing Christian thought to an ongoing public debate. It could help to promote Christian thinking in our society. Public awareness will have a positive effect only when the Christian views are based on a sound foundation. Otherwise there is an enormous danger of Christian attitudes being seen as ridiculous. A worthwhile result of this work could be that more Christians will be engaged in the discussion. There is a long way to go before we can achieve such an aim. The first step needed is a comprehensive collection of sources and their analysis. That will be the main task of this dissertation. After that, conclusions may be drawn identifying gaps in the ethics-related discussions and proposing areas for further work.

The question of privacy, its protection and its infringement, is clearly an ethical issue. The question about what is good or bad behaviour associated with RFID has to be raised. *Ethical* guidelines like simple stop-RFID-campaigns may be understood as moral rules, informing people on how to behave in certain settings. But *ethical reflection* about human behaviour tries to find and evaluate such guidelines in order to deal with complex situations such as the emergence of a new technology. The South African theologian and ethicist Mokgethi B G Motlhabi (2001:17), states that

> moral criteria are based on moral action and reflection, they are the result of ages of human experience and lead to more informed and responsible action. Human experience itself is based on ongoing human practice and reflection on this practice.

He speaks of *ongoing* practice and reflection. Ethics is, thus, a continuous process, and this study can be only a limited step within this process of dealing with RFID and privacy. The aim will be to act "in such a way that one's action will sustain and strengthen the moral fabric for the benefit of human survival" (Motlhabi 2001:15). That which is allowed and that which is restricted will be balanced in a way that the benefits for the society are maximised.

Before guidelines are formulated or legal restrictions put in place, related ethical issues should be assessed and discussed. It should be added that technologies are part of human existence. They have been addressed by

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philosophers, and therefore novel emerging technologies need new corresponding ethical reflections.

Furthermore we have to consider that the development of RFID and its applications are not yet final. There will be more advanced systems in the future. Operating ranges will increase; new manufacturing processes like printed electronics will lead to the more ubiquitous use of RFID. One has already referred to the view that RFID is seen as an *internet of things* in which items of daily life with embedded communication devices interact with one another, thereby resulting in the control of the environment far more automatically then is the case today. The discussion about RFID and privacy seems to be the first step only. The emergence of far more powerful technologies will raise further ethical questions and require answers.

5   Method of research

Our approach to dealing with RFID is interdisciplinary. Insights from different disciplines, such as engineering science, theology, sociology, anthropology, economics, or jurisprudence will be brought together. According to Walther G Muelder, we have to undertake "joint, supplementary, or complementary theoretical and empirical studies in theology, philosophical ethics, behavioural and historical sciences" (Muelder quoted in Motlhabi 2000:116). Motlhabi confirms this view stating that:

> [m]oral judgments, especially social ones, cannot be made in a vacuum. We need to be clear about the tangible facts of the situation under moral scrutiny, and for this we need social analysis as mediated through the social sciences (Motlhabi 2000:116).

Certainly the first step will be the investigation of literature directly related to the subject. This includes first of all the statements and arguments of the anti-RFID-activists. The RFID hype[2] has led to myriad RFID related publications. Many of them, about 50% (Langheinrich 2006:1) were related to the privacy question. Many of these publications merely ask, while some try to give an answer. It would be interesting to find out what solutions they propose. Furthermore it would be

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2   see section 1.3

interesting to see whether there are any statements related to religion or theology. As the debate around RFID and privacy is very new, publications of the last decade and internet sources will be examined mainly.

The quantities of available sources are very unbalanced. On the one side there are hardly any books dealing with RFID and theological ethics directly, on the other side, the literature dealing with the related aspects like philosophy, theology, sociology, jurisdiction, politics etc. is overwhelming. It will be an important task to find the right balance of sources useful for a study of the subject in question. Relevant literature sources have to be examined and commented on in order to draw conclusions for this study. The above mentioned aspects need some arrangement. This study will be structured in the following manner:

 (a) The emergence of RFID and all other influential technologies should be more or less comparable. The question will be whether there were any societal or religious reactions to the emergence and application of such technologies. How were they dealt with? What are their ethical/moral implications? Perhaps there are principles that could provide a model for application to RFID.

(b) Since privacy is the main subject of this dissertation, definitions and statements relative to privacy will be investigated. In order that detailed evaluation of RFID is done we shall assess what sociologists have to say. Furthermore, cultural aspects have to be considered. Different societies may emphasise privacy differently. Privacy is a facet that appears within the interaction between individuals. Privacy can, therefore, be defined only within a group of individuals in a society.

Another aspect emerges here. An individual having power over another individual may jeopardize the privacy rights of the subordinate if power is abused. In this respect, power in its various forms seems to be *complementary* to privacy. Principles dealing with the ethical use of power can also result in principles concerning privacy. It is, thus, important to examine sources that deal with power and its influence on privacy. For example, the execution of power is the subject of many novels. The most famous is George Orwell's novel *1984* published in 1949. It warns of the misuse of power as happened in the Third Reich. Probably this literature can contribute something to the privacy question.

(c) Theological and ethical issues are another dimension by which to approach the research question. Are there any theological statements that relate to the principle of privacy? Biblical texts will be examined. Their exegesis may yield some insights about how privacy can be seen from the Jewish and Christian perspective. Furthermore church history will be examined in order to find privacy related issues, as for example, the matter of the Confessional Secret.

(d) Actual legislation and the political situation will be examined. First of all, the existing data protection laws will be assessed and their ethical foundations will be analysed. Furthermore, human rights and their relation to a probable right of privacy will be discussed. The foundation of human rights and their probable relation to Christian principles will, especially, have to be considered.

(e) Concerns about the protection of privacy are discussed in the context of Western culture. Consequently legislation on this subject, as mentioned in point (d), emerged in Europe and the US. The cultural aspects will be evaluated. First of all, the differences between so-called individualistic and collectivistic cultures will be examined. Are there significant differences regarding privacy amongst individualistic Western cultures and collectivistic cultures like Asian or African societies? Are the requirements for the protection of privacy different in these cultures? There is also a critique on the individualism/collectivism dichotomy, so that there may well be a need for ethical considerations around the privacy question. This has to be assessed, and possibly a global approach has to be developed.

(f) Finally, conclusions for the actual situation will be drawn. Are there any substantial ethical principles from the Jewish/Christian perspective that can be applied to the use of RFID technology? There is still the risk that there are no such reasonable principles that can contribute to the actual discussion. Arguments have to be suitable grounded and unassailable. Otherwise Christians should leave the discussion to the secular realm, as it is primarily today.

The application of such principles may have an influence on the public debate, the design of laws and other regulations, but further down the line, they may influence the behaviour of any smaller groups of people, organisations, like companies, churches, families etc., or individuals within a society. These

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principles may have an influence on how leadership is carried out according Judeo-Christian ethics. Bass and Steidlmeier complain of the lack of ethical agendas in organisations and in (individual) leadership. They state that there is "[m]uch of the checks and balances argument refers to macro-social legislative, administrative and judicial checks and balances upon political power, rather than checks and balances upon power within organizations" (1999:208).

6   Brief overview and outline of the study

This introduction describes the research question and the methodology of how to approach a possible solution. Each of the following chapters will start with a literature overview relative to the topic of the respective chapter. The concluding chapter will be an exception as it deals with proposals for the actual political and societal and ethical-theological situation.

Chapter 1 describes the technological situation in which RFID emerged. The first step will be a literature overview, summarising the literature directly related to the research question. A brief outline of the historical development of technology and its reception in the society will help to understand what technology meant and still means to human existence.

Chapter 2 will pick up the other line of the research question, the issue of privacy. Here the definitions of privacy and the historical development will be investigated. Privacy is a wide field with several facets. In this chapter we shall discuss the various facets of privacy in relation to RFID applications.

The next chapter (chapter 3) will examine the Hebrew and Christian involvement in privacy and RFID. Ethical aspects of privacy have been discussed by Jews and Christians. Their arguments will be evaluated and discussed in order to determine whether their statements are of use as we come to conclusions and formulate principles applicable in the present discussion. There are several Bible texts and narratives that are related to privacy. These texts have been interpreted by exegetes, and it will be useful to see how the exegetes interpret and address these biblical texts in relation to privacy. Not only the Bible will be used as source for our subject, but other sources of ethics and theology such as church tradition and church history will be referred to. During the history of the church, privacy

may have been an issue. It would, thus, be interesting to see how Christians have dealt with these issues in the past.

Chapter 4 deals with some special aspects of the privacy issue. A more general question is how privacy is contrasted to power. This will be examined in biblical texts, church issues, and also as a general issue in secular thought. Further the location of privacy within the concept of natural and human rights will be described.

The final chapter will conclude what the examination has contributed thus far for the thesis, and how these probable conclusions can be applied today. This particularly depends on the actual situation. Data protection laws and the ongoing RFID legislation will be considered. This includes mainly juridical and political aspects. Cultural aspects will also be considered, and the global situation will be taken into account. The growing global interconnectedness of economies will make the situation even more difficult and requires comprehensive solutions suitable for an interlinked global economy and society.

1 RFID and its applications in Western societies

We shall start with a short description of RFID systems. A literature overview will then summarise some aspects directly related to the subject of RFID and privacy. The chapter will continue with a description of RFID and thereafter discuss the technical aspects of the research question of how the protection of privacy, threatened by new technologies like RFID, should be seen from a Judeo-Christian perspective.

1.1 Components of an RFID system

In order to identify an object a so-called RFID *transponder* is attached to that object. This operation is often called *tagging*. The transponder contains an electronic memory and a transmitter normally integrated into a single semiconductor chip. The memory contains a unique number (a code) or data describing the object. These codes or data can be read wirelessly via radio waves by a so-called *reader* or *interrogator*. By reading the unique code or the data stored in the transponder, objects are identified remotely and automatically. RFID systems vary in read range and other features like write capability, memory size, communication speed and others. Read ranges vary from a few millimetres to several meters. Critical for privacy infringements are the wider read ranges of up to 5 or 10 meters.

1.2 Literature related to RFID and privacy

The most famous book dealing with RFID is Klaus Finkenzeller's RFID-Handbook (2003). Klaus Finkenzeller is a well-known German RFID expert working for Giesecke & Devrient, a Munich-based manufacturer of legal tender, identity and travel documents. Finkenzeller's books are the most quoted within the field of RFID. The first edition of the German original was published in 1998. At that time RFID was not well known and was generally a subject pursued by specialists in this area only. Specialist is used in this study to refer to electronic experts interested in technical solutions. The RFID-Handbook is a comprehensive collection of electronic facts around RFID. It does not, however, address any sociological, political or ethical question. Finkenzeller, however, could not ignore

the privacy discussion that began to take place after his publication and thus he included in the 4th edition of his German handbook a chapter dealing with security issues of RFID. Even when this chapter deals with technical solutions for countermeasures against attacks on RFID systems and encryption as a solution for these obstacles, Finkenzeller recognises that "*civil rights initiatives* and *consumer protection organizations*" inform consumers about the risks of RFID applications. He compares the introduction of RFID with the introduction of the barcode in the 1970s, stating:

> Then, and also today, the protection of the individual's *private sphere* is an important debate issue. It mainly refers to the fear that the new RFID technology could be used for the unnoticed and undesired collection of personal data, which means that the active party can spy out the private sphere. In recent years, *civil rights initiatives* and *consumer protection organizations* have tried to inform the public opinion about the potential risks related to the broad usage of RFID systems (Finkenzeller 2010:213).

Then Finkenzeller mentions the first RFID legislation in the United States, and continues with the technical issues of RFID attacks, as one would expect in a technical book.

Finkenzeller argues in favour of RFID. He, however, has opponents, the anti-RFID activists who criticise RFID. These, among others, are Katherine Albrecht and Liz McIntyre who founded the association *Consumers Against Supermarket Privacy Invasion and Numbering* (CASPIAN). They worked out their opinion in the book *The Spychip Threat* in 2005. Further background to their movement will be described in the next section. Their book is the most comprehensive book arguing against RFID.

After a short description of RFID technology, Albrecht and McIntyre essentially describe RFID and its applications. They concentrate on applications that are related to individuals and have the potential to being abused. They provide examples of applications where every-day items are tagged with RFID transponders, like trade goods, trash bins, pharmaceuticals, bank notes, credit cards, and pets. They also discuss how tagging of human beings takes place. Many of the applications they focus on are abstract or hardly implemented. The authors consult a lot of patents describing the potential of RFID applications.

Patents are ambiguous. They may describe realistic applications that are in deed realised soon or later, but patents are often fanciful and exemplify unrealistic applications. Identifying and tracking persons in store environments (Albrecht & McIntyre 2006:33) is a realistic application, but "location of lost dentures" (Albrecht & McIntyre 2005:61) seems to be very far fetched. Or the "method and apparatus for locating and tracking persons" as described in US patent no. 2004/0174258[3] (Albrecht & McIntyre 2006:186) overestimates the capabilities of RFID because the possible read ranges are too short, especially when RFID transponders are embedded in human tissue. It seems to be inappropriate to draw any conclusions from these patents; at least the dangers of RFID are overemphasised by this kind of argument.

The critique is very plain. RFID is used to spy on people by "global corporations and government agencies" like "Wal-Mart, Target, Gillette, Procter & Gamble, Kraft, IBM, and even the United States Postal Service" (Albrecht & McIntyre 2005:1f). The conclusion is:

> Imagine a world of no more privacy. Where your every purchase is monitored and recorded in a database and your every belonging is numbered. Where someone many states away or perhaps in another country have a record of everything you have ever bought, of everything you have ever owned, of every item of clothing in your closet – every pair of shoes. What's more, these items can even be tracked remotely (Albrecht & McIntyre 2005:1).

Then Albrecht and McIntyre introduce a link to tracking and monitoring individuals remotely by the things they wear and carry. The next step they foresee is the tagging of persons directly.

> But chipping inanimate objects is just the start. The endpoint is a form of RFID that can be injected into flesh. Pets and livestock are already being chipped, and there are those who believe humans should be next. Incredibly, bars have begun implanting their patrons with glass-encapsulated RFID tags that can be used to pay for drinks. This application startles many Christians who have likened payment applications of RFID to biblical predictions about the Mark of the Beast, a number the book of Revelation says will be needed to buy of sell in the "end times" (Albrecht & McIntyre 2005:6)

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[3]   The United States changed their patent numbering system. The new patent number is now US7102508.

Here a Christian aspect comes in, reference to the Mark of the Beast (Rev 13:16-17).

In 2006 Albrecht and McIntyre published a paperback version of *The Spychip Thread*. This edition was clearly addressed to Christians. The subtitle, *Why Christians should resist RFID and Electronic Surveillance,* was added. The previous foreword by science fiction writer Bruce Sterling was substituted by *A Note from the Authors* of just two pages. In this preface Albrecht and McIntyre describe briefly their "professional work with CASPIAN", the association they founded in 1999. CASPIAN stand for *Consumers Against Supermarket Privacy Invasion and Numbering*. The authors explain:

> With more than ten thousand members in all fifty U.S. states and over thirty countries worldwide, CASPIAN seeks to educate consumers about marketing strategies that invade their privacy and encourage privacy-conscious shopping habits across the retail spectrum (Albrecht & McIntyre 2006:XI).

Then Christian aspects are addressed. The authors confess "We are Christians" (Albrecht & McIntyre 2006:XI), but they admit that the issue of privacy threatened by RFID is an issue for people of all faiths and backgrounds. They point out that there are special Christian concerns based on the expectation of the *mark of the beast* prophesized in Revelation 13.

> We do not believe the current incarnation of RFID is the mark of the beast prophesied by John in Revelation 13. However, we are closely watching implantable RFID "identity verification" devices […]. When these technologies converge, humankind may well have developed something that looks surprisingly similar to the mark of the beast predicted so long ago" (Albrecht & McIntyre 2006:XII).

The preface concludes with quoting Rev 13:16-17 directly describing a future scenario, where all people, small and great, rich and poor, free and slave, have to receive the *mark of the beast*. Otherwise they may not buy or sell anything. Albrecht and McIntyre presume a link between RFID and this *mark of the beast*.

The first chapter of Albrecht's and McIntyre's 2006 edition has some minor changes but essentially the same contents as the 2005 version of their book. The most enlightening is the newly included chapter 15, entitled *On the Brink of the Mark*. It starts with a heart-warming story of Katherine Albrecht and her

Grandma explaining to Katherine the coming mark of the beast. Then the author jumps into the present and describes the use of frequent shopper cards in grocery stores. Here a system has emerged capable of recording all our purchases. "In a way, the cards were 'registering' our purchases by linking every food item with the identity of the person who bought it" (Albrecht & McIntyre 2006:179). With the retailers' savings programmes "millions of people" are "being conditioned" to use shopper cards. Albrecht and McIntyre conclude that "we were giving the retailers a form of power over us". So far this is a description of a system that reminds us of the future "beast system" (Albrecht & McIntyre 2006:192), but it has nothing to do with RFID.

RFID technology may be used within this system but not necessarily. Additionally customer behaviour can be recorded with credit cards, cheques, or automated teller machine (ATM) cards as well. They all "give analysts a window onto our purchase habits" (Albrecht & McIntyre 2006:180). Customer cards systems can be circumvented by cash purchases.

Now the authors discuss RFID because there had been thoughts of using use RFID for tagging bank notes. If that would have been implemented there would be no way left to purchase anonymously. Tagging banknotes with RFID was discussed in order to prevent forgery. The use of RFID is far too expensive. In addition banknotes are already serialized with printed serial numbers. These numbers are easily registered in ATMs or elsewhere with cameras and/or optical pattern recognition (OCR).

The book then discusses the American Express Blue card and the Mobil Speedpass. The American Express Blue card and the Mobil Speedpass use RFID for payment.

The subcutaneous implanting of RFID tags into animals and human beings is discussed. Tagging of animals is used. Subcutaneous tagging of persons is also generally used for VIP guests as an access and payment device at several night clubs[4]. Albrecht and McIntyre describe these as step closer to the mark of the

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[4]   Baja Beach Club in Barcelona, Spain (Albrecht & McIntyre 2006:167), Baja Beach Club in Amsterdam, Bar Soba in Edinburgh, Scotland, and the Amika nightclub in Miami Beach, Florida (:169).

beast placed on the right hand or the forehead as described in Rev 13:16. Albrecht and McIntyre finally close this special "Christian" chapter with the statement,

> Many developments in retailing and finance today should be sounding alarm bells for Christians concerned about a universal, number based purchase authentication system like that described in the Bible. Of course, not all of the developments needed to make such a system possible involve RFID (Albrecht & McIntyre 2006:192).

The epilogue of the 2006 paperback edition is slightly expanded. Some subjects which had been addressed before are resumed in further developments which are not of interest here or have been outdated by developments in subsequent years.

There are not many further publications that discuss the privacy implications of RFID in depth. Most books simply mention the problem but do not provide any further thoughts about this subject. An exception is the book *RFID – Applications, Security, and Privacy* edited by Simson Garfinkel and Beth Rosenberg (2006). This book comprises a comprehensive compilation of essays from a wide range of stakeholders, from privacy advocates to industry representatives. The book includes essays from Stephanie Perrin, Jonathan Weinberg, and Katherine Albrecht. A chapter written by Ari Juels lists the various "Technological Approaches to the RFID Privacy Problem" (Juels 2006:329).

In another article, entitled *RFID and Global Privacy Policy,* Stephanie Perrin gives an in depth analysis of the privacy problem. If indeed, "RFID poses privacy problems that are arguably the most fundamental we have encountered in many years" (Perrin 2006:57), her study of human rights and data protection laws is essential. She defines privacy as (1) "fundamental human right, including the right to be free from unreasonable search and seizure or intrusion" and privacy as (2) "the protection of personal information" (:58).

Perrin's first approach is describing the comprehensive data collection pooling all kind of personal information. But this has nothing to do with RFID. There are many other technologies and procedures involved. Perrin obviously has future developments in mind like the *internet of things*. She anticipates that

> RFID bring to us an "Internet of things," on which objects talk about their owners and handlers, thus feeding powerful new databases.

> Industry proponents protest that the chips are not big enough to be intelligent, but the chips "chatter," even if it is only in monosyllables, brings to a new level a world in which humans hold increasingly less power and information hold increasingly more (Perrin 2006:62).

With this inclusion of such presumed future developments Perrin's analysis has a much wider scope then necessary for the examination of the current situation. Not surprisingly she refers to a lot of articles of the United Nations' *Universal Declaration of Human Rights*, the *Code of Fair Information Practices*, the Canadian Standard *CAN/CSA Q-830*, and the European *Data Protection Directive 95/46/EC*.

Perrin's essay is focused on information handling and is based on human rights. There are no further ethical considerations that would underpin her conclusions. We end up with principles that are already included in existing data protection laws.

Jonathan Weinberg's (2006) article titled *RFID, Privacy, and Regulation* focuses on retail applications only. He describes the applications in the retail sector and the possible privacy threats such as customer surveillance or profiling. Weinberg refers to the statements of privacy activists:

> Privacy activists have raised alarms over RFID technology. RFID-enabled goods or documents, they point out, will disclose information about themselves, and hence about the people carrying them, wirelessly to people whom the subjects might not have chosen to inform (Weinberg 2006:88)

Further he mentions "RFID's surveillance capability" when persons with tagged items may be followed secretly by others. Weinberg proposes a list of principles that could regulate the use of RFID and the associated data handling in retail applications in order to prevent uses that could "jeopardize consumer privacy and threaten civil liberties" (Weinberg 2006:89). He discusses the technical limitations of RFID and proposes technical and legal restrictions as solutions. His argument is first of all technical; any ethical considerations like mutual respect or misuse of power are missing.

Katherine Albrecht has written a chapter entitled *RFID: The Doomsday Scenario* which focuses on potential future development of comprehensive surveillance as in an Orwellian world. Like Weinberg, she starts with retail

applications and possible misuse of item-level tagging. She explains the *Electronic Product Code* (EPC) system capable of accomplishing such item tagging, and she sketches a potential network of readers. "A linked network of readers could create a system of pervasive surveillance so detailed it could eventually be used to monitor our every move" (Albrecht 2006:260). Retail applications are an experimental scenario leading to far larger applications supported by governments in order to achieve better security.

> A few years ago, the notion of a governmental-mandated RFID surveillance network would have sounded preposterous. However, the federal government's recent willingness to sacrifice civil liberties on the altar of post-9-11 security makes such a scenario all too conceivable today (Albrecht 2006:265).

Albrecht then concentrates on the potential backend information systems and four databases collecting all the information collected with the help of RFID, (1) a manufacturer's database, (2) an EPC database, (3) a point-of-sale database, and (4) a post-sale database. The last is described as the most dangerous one. Everywhere and every time unique tags may be recognized, and all our moves may be recorded. This use of RFID "could easily develop a nightmarish flip side, where every person, possession, and activity is logged and recorded" (Albrecht 2006:273). Albrecht's fear is that RFID, scarcely used in retail today, becomes a dangerous means for future comprehensive surveillance. Infringement of privacy is reckoned as terrible, but she does not give any further explanation for this critical judgment. What justifies our high appreciation of privacy? Perhaps its value is based on our individualistic Western culture. The value of privacy needs more evaluation and ethical clarification. A simple good-bad statement is not sufficient.

The subject of RFID is comprehensively presented by Sandip Lahiri in his *RFID Sourcebook*. Lahiri is RFID expert at IBM Global Services. He discusses privacy in a chapter entitled *Privacy Concerns*. He starts with a general description of the privacy issue, and deploys Warren and Brandeis' definition of 1890 which defines privacy as the right *to be left alone*. In order to overcome resistance against RFID, he proposes three areas of solutions, political/legal, business related, and technical solutions. Legal solutions could be a formal

technology assessment or a prescribed "clearly visible label" (Lahiri 2006:105). The business community could implement a code of conduct including a list of rules that describe how to implement RFID systems. And, finally, there is a wide field of technological methods, like encryption, kill command, or blocker tags, offered by Lahiri as solutions for the privacy problem. He expects that all three threads together "offer a solution to the privacy issues that can be broadly accepted by all the interested parties" (Lahiri 2006:111). Again an in-depth ethical discussion is missing.

This literature demonstrates that the issue of privacy infringement by RFID is well known, but normally examined briefly and without any detailed examination of privacy and its meaning for human existence. Here much more work is required.

1.3   Description of the actual situation

In the last few decades tremendous developments in electronics and information technology have taken place. Communication by electronic means has changed our daily life. There are still new technologies emerging. Radio frequency identification (RFID) seems to be such a new technology. The application of this technology provides many economic advantages, new security applications and better reliability in many industrial and commercial processes. The expectations are high, often higher then the capabilities of this technology.

Others fear that RFID will also have tremendous negative effects. RFID may be a tool for ubiquitous surveillance. Anti-RFID activists have claimed not to use RFID at all and have arranged riots like the Benetton and the Gillette boycotts in 2003 (CASPIAN 2003a, CASPIAN 2003b). Katherine Albrecht, an anti-RFID activist and founder of *Consumers Against Shopping Privacy Invasion and Numbering* (CASPIAN 2004), claims that "the risks RFID poses to the social world are comparable to the risks nuclear weapons pose to the physical world. In the same way that bombs destroy objects, RFID could decimate privacy" (Schmid 2008b:210), and "The risk RFID Technology poses to humanity is on a par with nuclear weapons" (Langheinrich 2005:329).

The high expectations and the controversy about RFID have led to a *RFID hype*, and it is typical of a hype that expectations and fears became overemphasized. The market research company Gartner Inc. describes such hype cycles for many emerging information and communication technologies, including RFID (Hansen & Gillert 2008:14). After the phase of early adaptors, a peak with exaggerated emphasis will follow. Then a time of disillusionment and disappointments appears. The final phase is called *maturity* and describes the normal accepted application of a technology. Now RFID is in a phase where there are still overwhelming expectations, but also an increasing number of disappointments.

As mentioned earlier and related to RFID there are discussions about its infringement of privacy. It is supposed that certain RFID applications may infringe the privacy of persons. Marc Langheinrich (2007:234) showed that over several years the subject of RFID is linked to privacy in about 50% of articles found in the internet (Thiesse 2005:368). This underlines the relevance of this subject. The question of privacy is associated to "ethical principles" as the European Commission states in its Recommendation 2009/387/EC.

> RFID will only be able to deliver its numerous economic and societal benefits if effective measures are in place to safeguard personal data protection, privacy and the associated ethical principles that are central to the debate on public acceptance of RFID. (European Commission 2009:47)

Viola Schmid (2008b:210) describes case studies with RFID applications and talks about "*ethical*, economical and legal aspects of these … scenarios" (my emphasis). The issue of privacy, the justification of privacy, and privacy protection are ethical questions. Of course, there are technical methods to protect privacy, and most of the published statements deal merely with technical solutions, ignoring any ethical background. But technique can be only part of the solution.

The technical solutions are described as *privacy enhancing technologies* (Schmid 2008b:213f). Typical privacy enhancing technologies are encryption procedures that codify personal data in order to prevent eavesdropping or any other unauthorized access to the data. Anyone with a sufficient level of technical

understanding and criminal energy can crack these encryptions. The technical development provides increasingly better means to decipher encrypted information. In order to avoid costly complexity and time consuming encryption operations often not the best algorithms are used. This implies that the danger is always present that after some time someone will break the cipher.

> 128 bits of security should be good for the next 5 to 10 years, potentially longer, depending on innovations. In the far future, we will clearly see 256 bit keys or levels of security and those types of levels of security are not expected to be breakable for at least the next several decades if not significantly longer (Engels 2010).

This statement shows clearly the compromises that must be found between sufficient security and technical efforts. Further details will be examined in section 1.5.5, where attacks and prohibiting technologies are discussed.

Working with RFID systems and with personal data requires a certain level of responsibility. It is a question of morality to use these techniques in the right way and not to misuse them, a misuse that may harm other people. Using RFID is a human action that requires ethical reflection. Motlhabi (2001:17) emphasises this when he states that the "ultimate criterion of human agency is to act consciously, morally and ethically." He talks about an "interaction between action and reflection, practice and theory, morality and ethics." So the action of using RFID requires *reflection*, *theory* and *ethics*. Here the research question is apposite when it refers to a Judeo-Christian perspective. Are there Judeo-Christian statements or principles that can contribute to the ethical reflections mentioned before?

There is another simplification of the issue of RFID and privacy. In Europe typically it is reduced to the question of protection of personal data. For example, Günther and Spiekermann (2004:245) remark that RFID technology is discussed publicly "against the background of the potential dangers for data protection" (my translation). In their article they do not mention any other privacy aspects. For this reason it is easy for representatives of the industry to claim that existing data protection laws are sufficient to regulate RFID applications as well. Still others oppose and call for further regulations. It should be investigated how far data

protection legislation covers privacy protection, and which additional regulations are eventually needed beside data protection laws.

In the United States there is a different situation. On one side there are no data protection laws, on the other side the USA is a pioneer in RFID legislation. California has passed Senator Bill 362 that became effective from January 1, 2008. "Wisconsin passed Act 482, in May 2006, and North Dakota in April 2007. Colorado and Ohio are reviewing similar bills while Florida and Oklahoma chose not to pass what their lawmakers proposed" (Sirico 2009:1). It is obvious that further states will follow. RFID will become a standard subject for legislation in the US. There are also activities in countries other than European countries and the United States (cf Schmid 2008b:218).

This situation opens the chance to influence legislation in the "right" direction, if ethical principles can be identified reflecting Jewish or Christian ethical thinking. This discussion, however, has to be postponed to the concluding remarks in the final chapter.

1.4 Ethical questions around technological developments

An important aspect is technical development. RFID provides new possibilities as new technology that was not available a few decades ago. This is generally true for many other new technologies as well. New developments raise new ethical questions and there is a need to investigate how technical developments are judged by philosophers and ethicists. The industrial revolution, the development of nuclear weapons, the global endangerment of the environment, and the emergence of computer and communication technologies are important steps to be considered. These technologies especially have led to ethical considerations and to the enacting of data protection laws in many countries. Scrutinizing data protection laws can be of assistance of helping to understand the situation of information privacy in these countries.

In general technical progress allows human beings to use technologies to do things more efficiently than previously or to do new things which have been impossible before. It increases the power of people over nature, including power over other human beings. In this way, technical development is connected to the

question of power. The application of new technologies opens new possibilities and decisions have to be taken if these applications are to be ethically justified. The more quickly new technologies are developed, the more ethical questions are to be answered, especially with regard to the rapid developments in the 20th century initiated many ethical and philosophical theories with corresponding solutions.

1.4.1 Definition of the term technology

The word *technology* was first introduced by Harvard professor Jacob Bigelow in 1829 (Nobel 1999:93). Of course, that does not mean that technology was a subject for thinkers from only the 19th century onwards but the *Industrial Revolution* stimulated the reflection on "science and the useful arts" at that time. The expression *artes mechanicae* had already been coined by Johannes Scotus Eriugena, a "court philosopher to Charlemagne's grandson Charles the Bald" (Nobel 1999:14) in mediaeval times when mechanical inventions advanced agricultural and, first of all, architectural progress. In the next paragraph we shall explain the meaning of *artes maechanicae* and *technology* and how philosophers interpreted them.

People explore creation, gain new knowledge, and apply that knowledge by using new procedures for their work. "People know where to mine silver and how to refine gold. They know where to dig iron from the earth and how to smelt copper from rock. They know how to shine light in the darkness and explore the farthest regions of the earth as they search in the dark for ore" (Job 28:1-3). This ancient description of old mining technology shows firstly the aspect of knowledge, how to do the work, and then secondly the application by digging and exploring "the farthest regions of the earth". The German philosopher Martin Heidegger (1889-1976) defines the *essence*[5] of technology in a similar twofold way. "One says, 'Technology is a means to an end.' The other says: 'Technology is a human activity.' The two definitions of technology belong together. For to posit ends and procure and utilize the means to them is a human activity."

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[5]   "Wesen" in German

(Heidegger 1977:4). The "human activity" is the way to do the work, and the pursuit for an "end" expresses the application of technology.

Heidegger was one of the early philosophers who dealt with the question of technology in depth. Many later thinkers used his work as a starting point for their own thought. Heidegger avoided an anthropocentric view of technology, stating that when technology progresses it is not always based on human activity alone, but depends on nature and on the capabilities nature provides for human use.

He further delineated the relationship of technology with natural science and its interdependency with technology. Scientific insights allow technological progress, and technological finding allow new research methods. For our discussion, a consideration of technological applications and their consequences for human life are important, and that consideration can be found in the works of philosophers who were less theoretically and abstract than Heidegger.

Jaques Ellul (1912-1994), a philosopher and Marxist who converted to Christianity and a professor at the University of Bordeaux, France, sees technology analogously as a means to an end. He describes technology as "the translation into action of [hu]man's concern to master things by means of reason, to account for what is subconscious, make quantitative what is qualitative, make clear and precise the outlines of nature, take hold of chaos and put order into it" (Ellul 1964:43). This is a rather wide or comprehensive definition of technology but for our discussion we do not need to work out a clear outline of what can be reckoned as techniques or not. It is obvious that RFID and all information and communication technology is technology as discussed by Ellul and other philosophers.

In what follows, the application of technology and its influence on the whole of existence will be the main focus. The *collection* of knowledge leads to an expansion of technology and consequently to an expansion of applications in more and more aspects of life and nature, and also spatially by worldwide expansion, or even into space. Heidegger expressed the latter when he wrote:

> Man is on the way to jump at the total of earth and its atmosphere, to
> seize the secret work of nature in the form of forces, and to surrender

the way of history to the planning and regulation of a global government (Heidegger 2003:372, my translation).

This process will be the main focus in the following text. It can be observed that the history of technological development shows important steps, in comprehensive global technology application and in the extent of power in all facets, leading to new ethical challenges that had to be answered respectively.

1.4.2 Historical development

The development of technology is described only rarely in the Bible. When Abraham intended to sacrifice his son Isaac, he used a *knife*. "He took … the knife" (Gen 22:6) and "Abraham picked up the knife to kill his son as a sacrifice" (Gen 22:10). Obviously there had been some development of tools, a technological development, between the first human beings and Abraham. The Jewish scholar Nahum M. Sarna comments that, "[t]he use of the rare Hebrew term *ma'akhelet* in Judges 19:29 in connection with the dissection of a human body and in Proverbs 30:14 in parallelism with 'sword' proves that a large and heavy implement is intended, not an ordinary knife" (Sarna 1989:152). So the knife seemed to be a sword-like instrument.

The development of tools is driven not only by the needs of daily life, but also by military requirements. For example, the development of iron chariots prevented the Israelites from conquering parts of Canaan. They could not defeat their enemies: "they failed to drive out the people living in the plains, who had iron chariots" (Judg 1:19, cf. Josh 17:16). Later "Sisera, who has 900 iron chariots, ruthlessly oppressed the Israelites for twenty years" (Judg 4:3). Probably the chariots were made of wood, strengthened or studded with iron (Moore 1908:38). They were made of wood, at least partly, as Joshua could burn them with fire (Josh 11:4-9). "Chariots were, as the Egyptian monuments prove, a strong arm in the military establishment of the Palestinian and Hittite kingdoms, whence these were introduced into Egypt" (Moore 108:38).

When Saul was king of Israel, the Philistines deprived the Israelites of metalworking technology in order to weaken their military strength.

> There were no blacksmiths in the land of Israel in those days. The Philistines wouldn't allow them for fear they would make swords and

> spears for the Hebrews. So whenever the Israelites needed to sharpen their ploughshares, picks, axes or sickles, they had to take them to a Philistine blacksmith. … So on the day of the battle none of the people of Israel had a sword or spear, except for Saul and Jonathan. (1Sam 13:19-22).

The blacksmith's work is ambivalent. It could be used for making weapons, or for making tools for agricultural purposes. This ambivalence of iron working technology is used symbolically till today. When the prophet Isaiah sees a vision of the "last days", he anticipates that nations "will hammer their swords into ploughshares and their spears into pruning hooks" (Isa 2:4, cf. Mich 4:3). The opposite may be the case as well. In Joel 3:10 the Lord calls on the nations to prepare for the fight and to "hammer your ploughshares into swords and your pruning hooks into spears." The meaning of theses verses of scripture is still applied today. For example, "In de Verenigde Staten werd de wetenschapplijke arbeid, die de toepassing van de technik van kernsplitsing en –fusie voor vredesdoeleinden ten doel had, op kern-achtige wijse 'operatie-ploegschaar'genoemd"[6] (Snijders 1985:47). At the UN building in New York there is a sculpture by the Russian artist Yevgeny Vuchetich (1908–1974) with the title *Let Us Beat Swords into Plowshares*, depicting the peaceful intentions of the UN organization. The ambivalence – using technology for "good" or "bad" ends – is still valid for many technologies, even RFID.

Military need was one of the main drivers in the development of new technologies. The strength of the Roman Empire was to a large extent built on sophisticated war machines. The Bible also reports technological development, often in relation to military applications. This development is not criticized in the Bible. It is still the responsible man or woman who decides wether to use or misuse technology. Technology itself cannot be made responsible for any harm its application may cause. John the Baptist was asked by soldiers (*strateyesthai* = men serving in the army), what they should do; and his reply was, "Don't extort money or make false accusations. And be content with your pay." (Lk 3:14). He did not criticize military service and he does not support nor deprecate their

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[6]   "In the United States the scientific work that applies the technology of nuclear fission and fusion to peaceful applications was aptly termed ‚operation plowshare'."

military service. Probably the soldiers had been helpers in the army of Herod Antipas as Evans comments, "It is not clear who these were nor why they should appear as a special class. That they were Jews employed in the army of Herod Antipas is possible, and in the context likely, as Luke would hardly introduce Gentiles so indirectly" (Evans 1990:241, cf. Godet 1986:128). There is no further reference to military service and technology.

Another track of technological development was the development of architecture. In the biblical record we find the building of the tower of Babylon (Gen 11). Later the people of Israel in their Egyptian captivity had to build the cities of Pithom and Rameses (Ex 1:11). The construction skills of the Egyptians are well known by the pyramids. The Great Pyramid of Giza is reckoned to be one of the seven wonders of the ancient world, and it is the only one that remained relatively intact. In Israel the impressive first temple was build under the reign of King Solomon (1King 6). After the exile the second temple was build by Ezra. In the New Testament, Herod the Great was a great master builder, and he extended the second temple in Jerusalem (John 2:20). Throughout history all the empires had their impressive buildings. The Greek, the Romans and, later, the medieval Europeans built their impressive temples and churches.

1.4.3 Industrial Revolution

Common to the technological applications in warfare and architecture described above is the need to engage larger groups of people to do the work. The societies had been basically agricultural. The normal economic unit had been the family, maybe supplemented by some helpers, like slaves or menials. That is also true for craftspeople. Walter Rauschenbusch (1916: 214f) describes the old system as follows:

> Hitherto each master of handicraft, with his family and a few apprentices and journeymen about him, had plied his trade in his home, owner of his simple tools and master of his profits. His workmen ate at his table, married his daughters, and hoped to become masters themselves when their time of education was over. He worked for customers whom he knew, and honest work was a good policy. He supplied a definite demand. The rules of his guild and the laws of the city barred alien or reckless competition which would undermine his trade. So men lived simply and rudely. They had no hope of millions to

lure them, or the fear of poverty to haunt them. They lacked many of the luxuries accessible even to the poor today, but they had a large degree of security, independence, and hope.

With the invention of new machines in the 18th end 19th centuries the so-called *Industrial Revolution* changed the social structures of European and North American societies. There was the invention of large energy-generating engines, like the steam engine of James Watt (1736 – 1819), the internal combustion engine of Nicolaus Otto (1832 – 1891), or the electrical power generator of Werner von Siemens (1816 – 1892). Many other inventions used these machines for many applications such as rail roads, steam ships, machine tools, automobiles and others. Ellul (1964:47) speaks of a "formation of a *technical complex*, which … consists of a series of partial inventions that combine into an ensemble".

Former handcraft manufacturing processes were enhanced and moved to "manufactories" or factories, where products were manufactured[7] in large scale. Sizeable companies emerged with a need for huge numbers of employees. This resulted in a migration to cities and their industrial areas. Societies changed totally. On the one side new rich company owners appeared, on the other side were poor workers, forming the proletariat, without any property who could hardly support their families. Rauschenbusch (1916:217) concludes, "When wealth was multiplying beyond all human precedent, an immense body of pauperism with all its allied misery was growing up and becoming chronic". He exemplifies England as the spearhead of the Industrial Revolution, "England was foremost in the introduction of machine industry, and the first half of the nineteenth century was one of the darkest times in the economic history of England. While the nation was attaining unparalleled wealth and power, many of its people were horribly destitute and degraded" (Rauschenbusch 1916:217f).

Technological development had radically changed societies. It was the remarkable merit of Karl Marx that he was able to analyze the new social problems and seek for a solution. But Marxism and communism finally could not provide a solution that worked well for all groups of the society. Christians also

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[7] The Latin word *manufacere* means literally *make by hand*. But the core characteristic of the Industrial Revolution was the substitution of manual labour by mechanical machines, or in other words *automation.*

took part in this process. In Great Britain Christian Socialism with Frederick Denison Maurice (1805 – 1872) as a leading representative emerged. In America Walter Rauschenbusch (1861 – 1918) was the leader of the so-called Social Gospel movement. In the Roman Catholic Church, the social encyclical *Rerum Novarum* (May 15, 1891) of Pope Leo XIII became one of the most famous encyclicals ever published. This encyclical was a response to Marx's communistic ideas. With the subsidiary principle Pope Leo tried to find a middle course between *laissez-faire capitalism* and *communism*. Later papal social encyclicals[8] are more or less based on *Rerum Novarum*.

In general all these approaches try to solve huge problems caused by the development and application of technology. This underlines the fact that we can expect similar, maybe less severe, problems with the application of new information and communication technology.

1.4.4 Nuclear weapons

When Katherine Albrecht compares RFID with nuclear weapons (Schmid 2008b:210)[9] it is a gross exaggeration. At the end of World War II, the military use of atomic bombs demonstrated that new technologies could lead to far-reaching consequences exceeding all possibilities that existed before. Furthermore, the experience with extremely inhuman totalitarian regimes and ideologies like National Socialism, Marxism-Leninism, and Stalinism that could be combined with this powerful technology led to the apprehension that even greater catastrophes could befall humankind. The aspect of the misuse of power will be discussed in section 3.

In an attempt to restrict nuclear weapons a search for solutions began, but until today there is no solution that satisfies all requirements and solves the nuclear threat. The Non-Proliferation Treaty is an example of a solution, but unfortunately it is not a comprehensive one. Nuclear energy has clearly increased

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[8]   *Quadragesimo anno* of Pope Pius XI (1931), *Mater et Magistra* of Pope John XXIII (1961), *Octogesima adveniens* of Pope Paul VI (1971), *Centesimus Annus* of Pope John Paul II (1991), *Caritas in veritate* of Pope Benedict XVI (2009).
[9]   "The risk it poses to humanity is on a par with nuclear weapons, Katherine Albrecht says" (Downes 2003).

the need for responsibility on the part of humankind, and humankind has to learn how to deal suitably with this new technology.

Nuclear energy is another example of the ambivalent use of technology. This technology can be used as a weapon in order to kill other people, or it can be used peacefully in order to generate and supply electrical energy. In this case the simpler way to use nuclear energy is the atomic bomb. "The atomic-bomb period is a transitory, but unfortunately necessary, stage in the general evolution of this technology" (Ellul 1964:99).

The impact of the development of nuclear weapons was so impressive that Romano Guardini expected a paradigm change from the *Neuzeit* (modern age) to another new age. His essay *The End of the Modern World*[10] (1998) was first published in 1950. He describes the *Modern World* as extending from medieval times to the first half of the 20th century. This paradigm change includes a change in an understanding of the impact of technology.

> The modern era was founded to justify technology and rested its defense upon the argument that technology promoted the well-being of man. In doing so it masked the destructive effects of a ruthless system. I do not believe that the age to come will rest with such an argument. The man engaged today in the labor of 'technics' knows full well that technology moves forward in the final analysis neither for profit nor for the well-being of the race. He knows in the most radical sense of the term that power is its motive – a lordship of all; that man seizes hold of the naked elements of both nature and human nature (Guardini 2001:56).

In light of the development of atomic weapons and the escalation of the cold war, Guardini sees humankind at a crossroads. Humanity may take the right way, if it does everything correctly, or it may be eradicated and everything will end, for example by a nuclear world war. Technology is the main driver in this decisive process. In that sense, Katherine Albrecht's statement is right: RFID as new technology forces us to take decisions in order to follow the right track.

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[10] German title: *Das Ende der Neuzeit*

1.4.5 Environmental protection

At the end of the sixties and seventies of the twentieth century *The Club of Rome* published the study *The Limits to Growth* (Meadows et al. 1972). This study tried to look many decades ahead, and it concluded that we will run into serious global problems if we continue to use technology and resources as we actually do. A nuclear war would have immediate and drastic global consequences. The use of *normal* technology would lead to far reaching consequences in the *far* future. It became obvious that the intensified use of technology will cause irrevocable damage to the global environment.

Owing to his awareness of these global problems, the Jewish philosopher Hans Jonas (1903-1993) tried to formulate an *imperative of responsibility*. In 1979 he published his book *Das Prinzip Verantwortung*[11] which was a response to, and a critique of, Ernst Bloch's (1885 – 1977) three volume work *Das Prinzip Hoffnung*[12] published in 1938 – 1947. "We oppose the principle of hope to the principle of responsibility, not to the principle of fear"[13] (Jonas 2003:390, my translation). The Marxist Bloch described in this work the communistic utopia. Communism expects a better world for humankind. It expects a future paradise by applying certain economical and sociological principles. This aim is the motivation of the Communists to work for a better world. Communism promotes the unlimited development and use of new technologies. The awareness of global environmental influences of unlimited technical exploitation of resources has led to a new evaluation of the situation. Jonas sees our responsibility to save the environment for future generations and to avoid "the global mass misery of a failing biosphere" (Jonas 1985:203). He criticises the capitalistic Western world for favouring unlimited technological progress, but he also criticises the communistic countries[14] and their "Marxist utopia, involving the fullest use of

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[11] The principle of responsibility.
[12] The principle of hope.
[13] Original German text: "Dem Prinzip Hoffnung stellen wir das Prinzip Verantwortung gegenüber, nicht das Prinzip Furcht." This text is not included in the English translation.
[14] Jonas speaks of the matter of fact that "the already proved demonstration of material overflow of modern technology became a significant factor within the socialist ideal. Promotion of industrialisation was, therefore, the signature of real and absolutely determined socialistic politics wherever it gained power" (Jonas 2003:258, my translation). This Text was not translated and

supertechnology" (Jonas 1984:201). His critique is similar to Ellul's critique in the 1960s of Western and Eastern countries of using technology without any limits.

Jonas compares the older societies with cities located within nature and limited in space and time. If a city vanishes, nature takes over the place again. Ethics were needed to regulate the life within the city. Ethics had no meaning outside the city. But now, by the use of technology, the city grows overwhelmingly.

> Now, *techne* in the form of modern technology has turned into an infinite forward-thrust of the race, its most significant enterprise, in whose permanent, self-transcending advance to ever greater things the vocation of men tend to be seen, and whose success of maximal control over things and himself appears as the consummation of his destiny (Jonas 1985:9).

This new situation requires a new ethical approach. "[T]echnology … assumes ethical significance by the central place it now occupies in human purpose" (Jonas 1985:9). Cumulative effects lead to a growth of "the city" over the whole globe. Many processes cannot be reversed. The effects have consequences for a long time, even for coming generations. That means that we take decisions today for future generations, and we determine the fate of generations to come we will never meet. It is often not easy, or it is even impossible, to determine the far-reaching future consequences of the technology we apply today. Jonas' proposal, an *ethic of responsibility*, asks that we take all these consideration into account, to use science and technology in order to investigate future consequences of technology elaborately, and to apply new technologies accordingly.

The question of responsibility is not new in Christian ethical thinking. "Many assume that the ethics of responsibility has philosophical roots, but the theologians H. Richard Niebuhr and Karl Barth were writing about an ethics of responsibility long before Hans Jonas." (Schuurman 2005:42; Schuurman 2010:122). The American ethicist and theologian Helmut Richard Niebuhr (1894-

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included in the English translation. Original German text: "… Tatbestand, dass die schon erbrachte materielle Überflussdemonstration der modernen Technik ein wesentlicher Faktor im modernen sozialistischen Ideal ist. Vorantreibung der Industrialisierung war denn auch überall, wo bisher der Sozialismus an die Macht kam, die Signatur seiner tatsächlichen und höchst entschlossenen Politik."

1962) elaborated his thought in the posthumously published book *The Responsible Self*. In his thought, we human beings *respond* to actions. "All life has the character of responsiveness," claims Niebuhr. "We interpret the actions to which we respond differently, to be sure, but we do respond, whether we interpret them as actions of God or of the devil or of a blindly running atom" (Niebuhr 1999:46). The Swiss theologian Emil Brunner emphasizes similar thoughts in his anthropological work *Der Mensch im Widerspruch*[15] originally published in 1937. He explains the Christian faith as a decision that "completely surrenders to the Divine Will" (Brunner 2002:50). In that respect he talks about a "responsible existence". "One who has understood the nature of responsibility has understood the nature of man. Responsibility is not an attribute, it is the 'substance' of human existence. … the knowledge of responsibility is that which makes every human being a real human being" (Brunner 2002:50). Brunner understands responsibility as a re-sponse to God's address. This responsibility includes all other liabilities and duties against other human beings or creatures including the responsibility of which Jonas speaks. But Brunner sees responsibility first of all as responsibility before God. All other responsibilities are derived from the responsibility before God. The Communist utopia and Jonas' *Imperative of Responsibility* are focused on the responsibility for the human race and especially for future generations.

1.4.6 Information age

The development of computers and communication technologies at the end of the 20th century can be seen as another quantum leap of technological progress. This milestone also includes the technology in question, RFID. But RFID is only a rather small tessera in this comprehensive mosaic.

The new ICT has led to the storage of huge amounts of data, and with high speed data communication access to these data, has opened new possibilities for global cooperation and many new business models. Computer technology and the internet are the mighty tools that have revolutionized the whole economic system. The New York Times journalist Thomas L. Friedman describes the effects of this technological step in his bestseller *The World is Flat* published in April 2005.

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15   *Man in Revolt* (Brunner 2002).

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When he says that the world became flat, he expresses that Jonas' local city grew to being a global village. Technology spread over the globe, but at the same time connected everything in a dense and powerful network. Friedman describes ten developments and processes leading to this new interconnected "flat" world, "the fall of the Berlin Wall, the rise of the [personal computer (PC)], Netscape, work flow, outsourcing, offshoring, uploading, insourcing, supply-chaining, in-forming, and the steroids" (Friedman 2006:204). Not all of these effects were technological, but the combination and coherence of technological, political and economical developments has led to the mutual improvement and amplification of the sometimes small technical improvements.

(1) The fall of the Berlin Wall and the change of the former Soviet Union into separate national states with more or less capitalistic economies resulted in an almost complete global capitalistic system. Even states like China, despite its retaining a communistic political government, changed to a more capitalistic orientated economy. Other states, like India and Vietnam, lost their economic ideal, the Soviet economy, and changed to capitalistic and more open economies as well. These developments led to a quicker and more widespread use of new technologies, especially the personal computer with standardized operating system, than we could have expected before 1989.

(2) Computers could communicate with one another, but only when the users were very knowledgeable about technical equipment. The next steps, the standardization of internet protocols and email information exchange enabled the development of internet browsers. In 1994 Netscape Navigator was released and became very popular within short time. This was a technological milestone, because it allowed all people, not only the educated or sophisticated ones to access information from the internet and to exchange data easily. PCs became connected via the internet. Normally, the communication used the normal telephone network, but increasingly the communication infrastructure was built up so that high speed communication became available for more and more people in the world. A global information network had emerged.

(3) Computers, software, and email changed business life totally. Many operations in a factory could be done better, more easily and more quickly with

the use of software. Machines could work more precisely, and office communication changed almost completely to the new electronic media. the Worldwide cooperation amongst factories especially had profited from these new possibilities.

(4) The internet gives access not only to a world of information, but also allows the uploading of information. A lot of freely available open-source software was developed by many free-lance programmers who contributed their piece of software to the whole. In a similar way, other projects like Wikipedia or the Linux operating system grows by the free contributions from many people worldwide. Blogging is another example, where people create their own news services via the internet, and in that way replace newspapers and similar news services.

(5) Companies outsource parts of their operations in order to save money or to overcome bottlenecks. The high speed communication net allows for the transferring of telephone services, software developments, bookkeeping, ticket sales or similar tasks to companies abroad or people working from home doing it as an auxiliary job. In India, for example, many companies were founded taking over such operations from Western companies.

(6) In 2001 China joined the *World Trade Organisation* (WTO). This paved the way for many companies to start new operations in China, finally reducing their labour costs dramatically. Of course, Chinese people have to bear the consequences by working hard for low wages. That form of exploitative manufacturing gave many companies an important advantage in their competition with their competitors. Today we get many products from China or other low cost countries for much lower prices than if they had been produced in America or Europe. "Consider that almost 70% of Wal-Mart's non-perishable goods come either directly or indirectly from China" (SCAN 2005:1). Competition forces other companies to move their manufacturing facilities to low-cost countries as well.

(7) This way of working, manufacturing in far away countries, requires new approaches when it comes to transportation, logistics, and the control of a global transportation network. Finally the customer expects to get the product in time, in the right quality, and in the right quantity when she or he needs it. Here

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RFID comes in. With RFID the supply chain can be monitored more effectively because it helps to track in the supply chain where the products are.

(8) The ambition to increase the efficiency of the global logistic processes has brought the large forwarding companies to "insource" functions that normally belong to the manufacturing companies. Operations like packaging, repair of returned devices, distribution and stock keeping, or similar activities have been taken over by the shipping companies. The manufacturers could concentrate on their core business, the production process. All other operations are outsourced to the shipping company with cost reductions and shorter response times from the customer's point of view.

(9) Now the internet again plays a key role. With the development of powerful search engines – here Google has generally dominated the market – useful information is available everywhere. In combination with web access not only from home computers but also by mobile phones, I-Phones, Blackberries, personal digital assistants, Notebooks and Net-Books this information source is available at all times in our private and business life.

(10) With "steroids" Friedman describes technologies that are not identical to the technologies described in points 1 to 9 but function as amplifiers for these technologies. One group are all the new wireless communication technologies like Bluetooth, wireless local area networks (WLAN), global positioning systems (GPS) or data exchange via normal cell phone networks. Another technology is processor technology that continuously leads to new, more powerful computers. Memory technologies, like semiconductor memory, hard discs, CD/DVD, memory sticks, memory cards, are also other accelerators for the use of the technologies referred to above.

The developments described here have led to a totally changed world. Life has become quicker; the world has become an interconnected village, a "flat" world. There are rapid inexorable technical developments with often unpredictable consequences for our lives or of that of future generations. As suggested by Jonas' *Imperative of Responsibility*, we need new ethical principles in order to use these technologies in a responsible way if we want to respect the dignity of our fellow human beings and if we want to save the environment for

future generations. For many technical applications necessary ethical principles are still missing.

1.4.7 Position of RFID as new technology

New technologies are invented. There is virtually no way of stopping this track of development. A government can try to influence the developments by controlling the funding, but that will finally have only a small influence as other countries will aspire to fill the gap and will be aiming for developing and using the new technologies. States with totalitarian regimes normally have no restraints with regard to proceeding with technological development. The development of nuclear weapons could not be stopped, but afterwards regulations were created and enforced in order to limit the use of these arms.

In a similar way the development of RFID cannot be undone. We have to live with it. Now we have to determine how to use it. We are responsible for defining and establishing proper ethical rules for the use of RFID. RFID is used in combination with many other new ICT developments. We have to consider the use of related technologies as well and the inter-operation of RFID within the IT networks.

Furthermore, the development of RFID is not yet complete. For example, many companies and universities are working on printed organic electronics (Hecker & Breitung 2011). The intention is to print cheap electronic devices on the packages of consumer items. If this research work is successful cheap RFID technology can be implemented everywhere. The so-called *internet of things* will become reality. This possible development urges the search for appropriate ethical solutions that go beyond the actual possibilities of RFID. These will be outlined in the final chapter.

Another vision regarding RFID is the *Internet of Things*. In 1988 Mark Weiser (1952–1999) an American computer scientist, coined the expression *ubiquitous computing* (Weiser 1991). He expected that in the 21st century small computers – like RFID chips – will be built in everywhere. These chips would communicate wirelessly and form an invisible network, an internet of things. Bert Moore of AIM sums up what that could mean in reality:

It's a grand vision: everything in the world talking to every other thing in the world. A frozen meal communicating with the refrigerator, microwave and automated shopping list; clothes giving instructions to a washing machine and dryer and consulting with an artificial intelligence fashion consultant in the wardrobe; a medicine cabinet reading medication instructions and automatically dispensing them for geriatric patients and reporting the dosage and time taken to the patient's doctor...the list goes on (Moore 2009).

But Moore also recognizes that it is still a long way to go to put together all the infrastructure of the *internet of things*. It is not clear how this infrastructure is constructed. There is an *horizontal* approach expecting a direct machine-to-machine communication with computing power within the transponders, and there is a *vertical* approach supposing simple transponders on the objects and an internet like data management in a background ICT network. If the internet of things becomes reality we can expect that it will be a combination of horizontal and vertical approaches. Quite certainly there will be critical privacy concerns, but so far the final infrastructure is not known and so the privacy aspects cannot be elaborated.

1.5   Technical description of RFID

The technical description of RFID systems will be kept brief here. The focus is more on applications, and especially applications with people involved, in order for us to be in a position to establish privacy aspects. This also includes probable technical solutions protecting privacy (section 1.5.5).

1.5.1 How RFID works

Like the barcode RFID is an AutoID system, a system for automatic identification. The objects to be identified are not identified directly but indirectly by a *transponder*, tag, or label attached to the object. A transponder is an electronic device containing a memory that can be read or written to via wireless communication. A so-called *reader* accesses the transponder remotely and so identifies the object. The data stored in the transponder's memory are a unique code that has to be linked somewhere in a database with the object to be identified. The transponder may provide additional memory that can be used to store further data of the object.

There are two main differences between barcode and RFID. RFID systems are more robust. Transponders can be read without line of sight. They are less prone to dirt than barcodes. Another point is that barcodes are printed and cannot be changed afterwards. Transponders may have a read/write memory. Data can be changed easily if this is applicable.

Barcode was an emerging technology in the 1970s and became a great success story. The first RFID systems that worked reliably were developed mainly in the 1980s and 1990s but had still not been popularised as the barcode had been.

RFID is a universal technology that can be used for various applications. There is insufficient space here to describe all possible applications, but we can distinguish several groups of applications. Often described and discussed are logistic and retail applications. Items are identified automatically in order to supervise and control manufacturing and transport processes. Here RFID is used for economic reasons. Processes can be automated and so manufactured more cost efficiently. Automatic supervision reduces the number of manufacturing and transportation errors. Tracing and tracking systems use automatic identification systems extensively. For example, all large scale car manufacturing facilities use RFID.

There is another large group of applications which can be summarised as access control applications. For example car immobilisers, tickets for sport events or public transport, or access control systems for homes or other buildings are very common and often made possible with RFID. Transponders are involved in electronic payment systems and controlling the access to money. There are credit cards with RFID transponders inside them. Here reliability and security are important owing to the monetary values involved. New passports are equipped with RFID technology in order to prevent counterfeiting, and to effect a quick and reliable system at border crossings. Electronic passports are used for "access control" to foreign countries.

Critics of RFID fear that everybody will be supervised if transponders in the apparel or in the shopping bag are read secretly. They fear that the owner's identity, possessions and locations can be monitored without their consent. This, indeed, would lead to persistent privacy infringements. All this may be the case in

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the first group of applications described above. In the second group RFID is used to prevent illegitimate access, car theft or money transfer. It protects one's property and one's privacy.

Comparing these two groups of applications it is obvious that RFID technology is ambivalent in this respect. It is neither "good" nor "bad" by itself. It is the moral decision of the person using the technology, as with nuclear energy which can be used to generate electrical power or kill people by dropping atomic bombs. Normally, the use of RFID in order to improve logistical processes has no negative image, but the tremendous logistical operations during the Afghanistan and Iraq wars used RFID intensively. Here ethical questions come up that have nothing to do with the question of privacy discussed here.

There are not only the questions about which applications should be allowed or not, but also the reality that RFID technology could be enhanced actively. Certain measures could be developed, and indeed have already been developed which could protect personal data or prevent identification of a transponder. These technologies are described as *privacy enhancing technologies* (PETs). For example, such a technology is described in ISO/IEC 29176:2011 *Information technology - Mobile item identification and management - Consumer privacy-protection protocol for Mobile RFID services*. The first step is *authentication*, regulating the access to the data stored in the memory of the transponder. The second step is the transfer of the data themselves. Here a secure *encryption* should be applied in order to prevent disclosure of information in the case of eavesdropping. These two steps are related to the wireless communication between reader and transponder. Further security measures are required if the whole system is considered. The whole process of data handling has to be checked and secured by appropriate measures.

1.5.2 Applications of RFID

RFID is a technology that can be used in innumerable applications. To get this subject under control the *RFID Reference Model* developed by the European CE RFID project is a useful tool (Wolfram et al. 2008:10). RFID applications are divided into two main areas, (1) *mainly object tagging*, and (2) *tagging with*

reference or potential reference to individuals. Object tagging is mainly segmented into:

    (a) logistical tracking and tracing;

    (b) production, monitoring and maintenance; and

    (c) product safety, quality and information.

Tagging with reference or potential reference to individuals is split into

    (d) access control and tracking and tracing of individuals;

    (e) loyalty, membership and payment;

    (f) health care;

    (g) sports, leisure and household; and

    (h) public services.

These categories are then further subdivided in sections AA … HD. I will not discuss these here in detail, because it would go beyond the scope of this thesis to give a detailed overview of all RFID applications.

Obviously, the question of privacy was in the background when the CE RFID classification was developed. "Potential reference to individuals" headlining categories (d) to (h) is obviously seen as privacy related, but tagged objects of categories (a) to (c) can also become related to individuals, when the objects are worn or carried by someone. This will be discussed in section 1.5.4 in detail.

The greatest application of RFID is its use in logistics and retail. Tagging at item level may especially lead to privacy problems. Large retailers, such as Wal-Mart (Wal-Mart 2004), Tesco (Collins 2004) or Metro (Metro [n.d.]) have already started with test applications on pallet, case, package, and even item level. Not only do these large retail companies have to deal with logistics, but military operations include comprehensive logistical operations in the background as well. The US Department of Defence (DoD) started to implement RFID on a large scale. This logistical application of RFID has a critical ethical component as it is used in military operations. RFID helps to accomplish "safe transportation for essential materials for combat troops." RFID allows tracking of containers more quickly, and more accurately than before. To give an example Major General James L. Hodge stated,

> We're fighting two wars. Without RFID, the commanders would have no means for tracking and monitoring the equipment that is required to fight and win those wars. (Gautam 2009).

Of course that is not a problem related to privacy that we shall discuss here.

1.5.3 Economical benefits of RFID

The main motivation for RFID applications are economic interests. Companies use RFID in their manufacturing processes in order to advance and optimize the automation of manufacturing. More advanced automation means a reduction of work power and with that cost savings. Normally, in such applications *return of investment* can be calculated easily, and companies can also easily decide in favour of RFID.

Another motivation for using RFID is error avoidance in industrial processes. Here it is much more difficult to calculate the benefits. Nobody likes to admit mistakes, and often no data regarding failure rates are available. But nonetheless a large group of RFID applications helps to avoid faults and so save costs indirectly in many industrial processes.

A non-industrial example, but one with enormous consequences, is patient identification in hospitals. There are statements that thousands of people die in the US by false identification and wrong medical treatment. "Medication errors, for example, rank among the most common medical errors and harm at least 1.5 million people every year resulting in approximately 7,000 fatalities" (Payne & Walter 2008). According to a landmark 1999 Institute of Medicine report, "between 44,000 and 98,000 Americans die annually due to medical mistakes" (Wideman, Whittler & Anderson 2007:438). To overcome these problems identification systems like barcodes or RFID can help "to check the 'five rights' of medication use – right patient, right medication, right dose, right route, right time" (Hook et al. 2008:1). Of course, Albrecht and McIntyre (2006:108ff) criticize these statements but we can surely suppose that with proper patient identification or medical reports stored in RFID transponders at least some lives per year can be saved and many incorrect treatments can be avoided.

In the last few years the protection of brands and measures against counterfeiting have became increasingly important. "Billions of dollars of revenue

are lost annually as a result of counterfeit items" (Lahiri 2006:89). Exact figures are not easyly available as the estimated number of unreported cases is high. Marking original products with RFID transponders is a means of proving originality. The economic interests are obvious. Well-known branded products can be sold at a much higher price compared to fake products. Globalisation is one reason for counterfeiting. Manufacturing in far away countries and long distance logistics open doors for criminal activities. They also open opportunities for theft in general.

> According to the Global Retail Theft Barometer (2008), retailers experienced total shrinkage of $105B, and spent roughly $25B combating the problem, bringing the total annual shrink cost to over $130B (Read & Timme 2009:7).

RFID and Electronic Article Surveillance (EAS) are the suggested means of fighting theft over the whole supply chain from the manufacturer to the customer. About 43 billion USD of the cited 105 billion USD above relate to customer theft. The remaining 62 billion USD "come from employee theft, vendor discrepancies, and various internal errors" (Read & Timme 2009:7). The issue of November 2009 of *RFID Monthly* reported that the figures became worse as the economic crisis at that time stimulated further theft.

Here again medical applications are most critical. The value of counterfeit drugs is estimated to be in the range of 7 to 26 billion US dollars (:90). Fake drugs may lack active ingredients or may be contaminated with impurities. Consequences may be that consumers do not get the treatment they need, or a patient may even die as a consequence of missing agents or added lethal substances.

Globalisation requires increasingly more efforts to manage the flow of commodities. RFID is an excellent tool to accomplish this.

> "When you have RFID," said Rollin Ford, the Wal-Mart logistics vice president, "you have more insights." You can tell even faster which stores sell more of which shampoo on Fridays and which ones on Sundays, and whether Hispanics prefer to shop more on Saturday nights rather than Mondays in the stores in their neighborhoods. "When all this information is fed into our demand models, we can become more efficient on when we produce [a product] and when we ship it and then put it on the trucks in exactly the right place inside the

trucks so it can flow more efficiently," added Ford. "We used to have to count each piece, and scanning it at [the receiving end] was a bottleneck. Now [with RFID], we just scan the whole pallet under a bubble, and it says you have all thirty items you ordered and each box tells you, 'This is what I am and this is how I am feeling, this is what color I am, and am I in good shape' – so it makes receiving hugely easier." (Friedman 2006:161f).

It is possible not only to manage the logistics of large retailers but also additional benefits like better and quicker reactions on market changes are on hand. "RFID technology and sophisticated order analysis tools that monitor even the most minute market activity are rapidly leading us toward industry's holy grail – absolute balance in supply and demand" (Friedman 2006:161).

A more indirect economic benefit can be seen in data collection in order to better describe the behaviour and attitudes of consumers. The better characterisation of consumer behaviour can help in the carrying out of effective individualised marketing campaigns. Investments for better in-depth data collection will result in more effective product marketing and, finally, in more sales.

Access control describes another set of RFID applications that aim to protect property. For example the car immobilizer works with RFID and prevents the theft of one's car. It protects one's property, and that has to be considered as an economic benefit. Access to buildings, sports events, public transport, and all kinds of ticketing are other applications of access control that can be done with RFID effectively. They hinder ticket fraud.

The applications described above are more or less working with RFID directly. There are many more business cases that benefit from RFID indirectly. For RFID applications, infrastructures have to be build up, software has to be written and installed, licences for intellectual property have to be paid. As in the barcode business, the administration for generating unique codes in RFID transponders is a good opportunity for additional business. For example, in retail applications GS1[16] sets up a numbering scheme and grants certain code ranges to

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[16]   GS1 is an association founded by retail companies. Collecting fees for codes is a good business. Therefore GS1 tries to penetrate other markets in order to gain new business in these markets.

the retailers using EAN barcodes or EPC transponders. The retail companies have to pay annual fees according to their worldwide turnover if they want to participate in the wholesale or retail that works with these codes.

Intellectual property regarding RFID has been an important issue for several years[17], and it has been important for economic issues as well. Patents are used in the fight for market shares. Several lawsuits have been filed. For example, in a lawsuit AVID vs. Datamars SA a fine of 6 million USD was imposed for patent infringement (RFID News 2006). The technology in question was available and applied in Europe for many years. Companies have started to file countless RFID patents hoping to earn a great number of licence fees when RFID becomes a commonly used technique. This situation may also hinder fast market development. Some companies have therefore joined in *The RFID Consortium* in order to overcome these hurdles (RFID Consortium 2011). The consortium offers easy licensing of patents held by the participating companies. A similar move is *EPCglobal's* effort to keep the EPC technology licence free (Wolfram et al. 2008:112f, EPCglobal 2003). Only a technology that is licence free, or at least requires limited, reasonable licences, has the chance of being applied on a large scale. Otherwise, the greed of patent holders may block RFID use and business.

There are various reasons for using RFID, but from the economic point of view there must be a balance between effort and gain, or costs and profit. Companies always look for a positive return on investment. From the ethical point of view, search for profit may turn into greed and misuse of a technology instead of proper and ethically acceptable use. To infringe privacy of consumers may be economically advantageous for companies, but it will harm human beings, and, in the long run, harm the reputation of a company which would then be economically disadvantageous for the business.

1.5.4 Infringements and protection of privacy

There are applications of RFID that may infringe the private sphere of persons. It may be the application itself in its normal operation that infringes privacy, or it

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[17] The US patent office lists 14460 patents with the keyword *RFID* in US patents from 1976 on (USPTO [n.d.]).

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may be any criminal intended action outside the normal operation. The first group can be subdivided into applications with personal data involved or that where it is not involved. Regarding the handling of personal data, the existing data protection legislation should be considered. With the use of RFID, personal data may be stored on transponders that could be read elsewhere, i. e. RFID could be a means of distributing personal data more widely than before.

If no personal data are involved, RFID transponders can still be used to track the location of persons or to survey certain behaviours or properties of a person. In his overview article, Ari Juels is concerned about "clandestine tracking and inventorying", and he noted,

> … a person carrying EPC tags is subject to clandestine inventorying. A reader can silently determine what objects she has on her person, and harvest important personal information: What types of medications she is carrying, and therefore what illnesses she may suffer from; the RFID-enabled loyalty cards she carries, and therefore where she shops; her clothing sizes and accessory preferences, and so forth (Juels 2005:3).

Juels adds, "This problem of inventorying is largely particular to RFID". If bank notes are tagged, it would be possible to determine the amount of money a person carries in her pocket. The implications are obvious. Significant Information, a *profile*, related to a person could be collected without even knowing the person herself. Profiling is already a marketing tool, especially when shopping via the internet. But using RFID profiling could be done more comprehensively and in greater detail than with the restricted means of online orders, credit card payments or mobile phone calls.

The rapid development of ICT allows profiling in a way that was not possible without these new technologies. Huge amounts of data can be stored forever. New software can do *data mining* jobs quickly and effectively. A great amount of data relating to a person can be collected and linked together without involvement of any personal data.

In an article, published in 1998, Helen Nissenbaum, professor at the Department of Media, Culture and Communication of the New York University, coined the expression *privacy in public*. She is critical about the fact that the actual discussion considers only privacy protecting efforts "primarily applied to

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intimate and sensitive information" (Nissenbaum 2000:1). But there are so many data available relating to an individual that their amalgamation can yield a clear picture of that person. So far combining all publicly available information was a "painstakingly search for and copy the information". Nissenbaum concludes, "such effort created de facto protection" (Nissenbaum 2000:16). But now computer and communication technology has changed the situation, and "profiling, data mining and aggregation, has significantly altered the meaning of public information" (Nissenbaum 2000:1), and she continues:

> Key advances in computer technology have clearly affected our facility with information. These advances include an exponential decline in the cost of computer storage and processing coupled with vast increments in power, the capacity to create large and complex but decentralized databases on networks of minicomputers and PCs, the use of expert systems for processing data, and the cooperative handling of data both within and among institutions (Nissenbaum 2000:15).

Obviously Nissenbaum criticizes the focus on *local* privacy protection in the North American context, and draws attention to the more typical European emphasis on personal data and the affiliated question of their protection (*informational* privacy). These cultural differences will be discussed later in a separate section.

When personal data are stored in the transponder's memory, the situation becomes more critical and more dangerous in certain circumstances. Even small amounts of information may allow a significant misuse. For example, when, in 2006, the US government decided to introduce passports with RFID chips embedded, some "people sketched the scenario of a terrorist on a foreign airport using an RFID reader to scan US citizens" and then trigger a bomb or commit some other crime (van Kronenburg 2008:17). It is obvious that the more personal data are revealed the more inappropriate uses with more serious consequences are possible.

1.5.5 Attack scenarios and privacy enhancing technologies

When we discuss the effects of RFID application, we not only have to consider the normal intended use but also the potential use by criminals. There are several points where RFID systems can be attacked, the transponder, the wireless

communication between transponder and reader, and the reader itself. Further the background computer system may be attacked.

A transponder may be destroyed mechanically or deactivated electrically. A transponder may be removed from the item to be identified. Data stored in the memory of a transponder may be erased or changed. A transponder could be copied or reprogrammed pretending a wrong identity.

The wireless communication could be eavesdropped. But that is only a passive action, and it needs further activities in order to harm the system. The wireless communication may be blocked or disrupted by interference. The communication may be interrupted, or it could be modifying or falsifying the communication with the reader.

The reader itself could be a target for attacks. Read identities or data could be modified. A reader could be susceptible to denial-of-service attacks by devices simulating an infinite number of tags, so-called blocker tags (Juels, Rivest & Szydlo 2003, Lahiri 2006:109f). Specific data read from a tag could be acting like a computer virus if the reader is operated by unreliably written software (Rieback, Crispo & Tanenbaum 2006)[18].

The most important countermeasure by far against these attacks is *encryption*. Encryption procedures are used on the one hand for a secure *authentication* of tags, and in a few cases also for the readers, and, on the other hand, for the secure transmission of data. Authentication proves that this is the right transponder. After the authentication the data are exchanged between transponder and reader. If these data are not encrypted, these plain data could be monitored.

Encryption requires system power and additional operation time. The wish for the most simple transponders and the critical transponder prices are especially obstacles to the implementation of reliable encryption procedures. Further encryption may be cracked with the emergence of more powerful computers. We have to presume that a ciphering procedure will be cracked soon or later.

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[18]   See also www.rfidvirus.com, accessed 2010-01-10.

Encrypted RFID systems have been cracked in the past. In 2005 the encryption of the *Speedpass,* an electronic payment system based on Texas Instrument's TIRIS RFID system, was broken by some students of Johns Hopkins University (Bono et al. 2005). Later researchers were able to reverse-engineer the Mifare Classic cryptographic algorithm Crypto-1 (Courtois, Nohl & O'Neil 2008, Rieback 2008:12). This RFID system is marketed by NXP and broadly used for ticketing applications. Besides hacking encrypted RFID systems, there are reports of hacking unencrypted access control systems as well (Westhues 2006).

Privacy advocates summarise encryption techniques as *privacy enhancing technologies* (PET), and they require their application in RFID systems dealing with personal or person related data (Schmid 2008b:213f). Schmid lists in her article removable tags, kill commands, cryptographic methods, blocker tags and metal envelopes as PETs.

These are all technical solutions with a limited effect on privacy protection. Protection of privacy still remains an ethical question. PETs can be only partly a means to reach a comprehensive solution.

1.6   RFID in the context of technological development

In this chapter describes the conflict between promoters and critics of RFID technology. Their arguments are listed in order to show their discrepancy in their judgements related to RFID. In history the emergence of a new technology this is not a new situation. There had been several boosts in technological development like the invention of the steam machine, the use of nuclear energy, the invention of computers and other developments that rose challenging ethical questions that had to be discussed and if possible be solved. That was not always successful. For example, the production of nuclear weapons is still an important issue.

Then RFID as new technology is discussed by describing the technology and its applications. The possible benefits are huge, but also the accompanying risks. Often technical solutions are proposed to overcome the risks. Of course, that is only a part of a solution; many ethical questions still remain unanswered. Further steps are necessary to achieve a comprehensive solution to all ethical questions around RFID.

2 Privacy issues in Christian Ethics

In the previous chapter the technological aspects of this paper have been dealt with. The next main topic to be examined is privacy. First of all, privacy has to be defined in its various aspects. With this knowledge, biblical and other Judean and Christian texts can be searched for hints of, how privacy is seen in Judeo-Christian contexts. As privacy can be seen as complimentary to power in its diverse occurrences, the relation between power and privacy will be investigated and discussed. This includes possible infringements of privacy by power and how protection of privacy can be achieved. In order to come closer to the contemporary debate, it seems appropriate to look into the relation of privacy to human rights. On the one hand, this may emphasise the link to Christian thought and culture, on the other hand, it may open the door to today's understanding of privacy.

2.1 Privacy related literature

Privacy as the subject of scientific research is normally part of sociology. We can expect to find publications about privacy in the sociological literature. Texts about RFID often refer to Beate Rössler's book *Der Wert des Privaten* (English edition *The Value of Privacy*). She is a professor of philosophy teaching at the University of Amsterdam, Netherlands. Her book is an elaborate work about privacy, based on a liberal humanistic world view. Other sociologists dealing with privacy are the American sociologist Barrington Moore Jr. (1913 – 2005) and the German sociologist Wolfgang Sofsky. Moore especially made a remarkable study available where he analysed some ancient and contemporary societies and their understanding of privacy. Here his analysis of the ancient Jewish society is of great importance. Sofsky gives a more popular overview of our insight into privacy in the Western world.

It is difficult to find any literature related to Christian aspects of privacy. There are, first of all, biblical texts and the related exegetical literature that could be of help. Of course, the number of comments on Christian issues is huge. Exploring privacy issues in the Bible is like looking for a needle in a haystack.

Christian literature about human rights and the issue of power could provide some statements to the privacy question.

Further subjects are the cultural aspects of privacy. Here the work of Geert Hofstede and his *Culture's Consequences*, published in 1980, is fundamental. Later research work is more or less based on Hofstede's work. It will be useful to follow one of Hofstede's cultural dimensions, the *individualistic index* that measures the individualism/collectivism dualism of a society, which will be discussed later.

2.2 Definitions of privacy and influences on privacy

The task of this section is to define the numerous aspects of privacy derived from various publications. It will not be easy to find a sharply demarcated definition of privacy. "Yet historical use of the term is not uniform, and there remains confusion over the meaning, value and scope of the concept of privacy" (DeCew 2008:1). Or more plainly, "the concept of privacy cannot be satisfactorily defined" (Velecky 1978:18). There are too many aspects contributed from philosophical, sociological, anthropological, or cultural discussions and these hinder a clear and simple definition of privacy. In addition these discussions sometimes have a long history like, for example, Aristotle's distinction between private and public spheres (DeCrew 2008). There are cultural influences that lay emphasis on different aspects of privacy. In North America, privacy is first of all understood as right "to be left alone" or "the right to be free from unreasonable search and seizure or intrusion" (Perrin 2006:58), in Europe the emphasis is on protection of personal information. Even Western culture is not homogeneous with regard to the issue of privacy.

2.2.1 Privacy in classical Greek thought

In his study about privacy, Moore (1984:ix) elucidates privacy as "refusing access by other persons in specified situations", "as private rights against holders of authority or other members of the same society", and "personal privacy and private rights are linked by the notion of intrusion". *Intrusion* or interference by other people is defined by the respective social context and will, therefore, be

different in different societies. Moore gives detailed definitions of privacy when he investigates particular societies in depth. He also points to the complementary issues of privacy and power that will be discussed in section 3. The private/public polarity was an important issue in ancient Greek societies. Moore, Rössler, and also Hannah Arendt refer to the Greek understanding when they describe privacy and the public.

In Moore's analysis of the classical Greek society he discusses at length the *private / public* dichotomy. The Greek "word for private is *idios,* meaning one's own or pertaining to one's self" (Moore 1984:82). The opposite, public, is *demios*, meaning related to the people, or *koinos*, meaning common or shared in common. The private realm was the household, including the family, slaves, animals, and all the economy of daily life. With the emergence of the city state, the *polis*, the public realm appeared. This public life was characterized by two activities, action (*praxis*) and speech (*lexis*), constituting the *bios politikos* according to Aristotle (Arendt 1998:25).

It is interesting to recognize that in classical Greek understanding "political economy" is a contradiction in itself. Politics are public, and economy belongs to the private sphere (Arendt 1998:29). During the Greek-Roman historic development the state assumed more and more shares of former private live. Public life was the great aim to reach out for, and freedom could only be found there. As Arendt states,

> What all Greek philosophers … took for granted is that freedom is exclusively located in the political realm, that necessity is primarily a prepolitical phenomenon, characteristic of the private household organization, and that force and violence are justified in this sphere because they are the only means to master necessity (Arendt 1998:31).

With this understanding felicity, *eudaimonia*, could only achieved by liberating oneself from necessity, and that could evidently not be found in the private sphere of the household. Arendt describes a natural separation between the spheres. "Nature is private, and culture is public, as the Aristotelian tradition famously has it"[19] (Rössler 2005:108). In ancient Greek understanding, the private area is

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[19] The original German text is: "*Privat* ist die Natur und *öffentlich* die Kultur, das ist bekanntlich die aristotelische Tradition." (Rössler 2001:196).

characterised by the necessities of life, and, therefore, it lacks freedom. Only the public realm allows free activities and freedom for self-realisation. Berlin summarises "this ancient and famous doctrine" as follows:

> I am free only to the degree to which my person is 'fettered' by nothing that obeys forces over my person over which I have no control; I cannot control the laws of nature; my free activity must therefore, *ex hypothesi*, be lifted above the empirical world of causality (Berlin 2008:183).

But this ancient understanding does not reflect the modern understanding of privacy it even contradicts contemporary thinking. Individual freedom and autonomy belong to the private as well as to the public sphere. Today "private freedom is something that people live out in public space" (Rössler 2005:110, German original Rössler 2001:199). Contemporary thinking sees privacy first of all as self-realisation in the private realm, as the right to be "left alone". Freedom and self-realisation in the public area can be seen as coming second only.

2.2.2 Local privacy

Marc Langheinrich, a RFID expert and now professor at the Swiss University of Lugano, in his paper *RFID and Privacy* distinguishes between "two classes of individual privacy: *data privacy* and *location privacy*" (Langheinrich 2006:9). The local interpretation of privacy is quite obvious. The ancient Greek household delimited an area of privacy, normally manifested in a certain property of land. The saying, "An Englishman's home is his castle" reflects the same understanding (Griffin 2008:236). In 1763 the British Prime Minister, William Pitt, the first Earl of Chatham, said[20]

> The poorest man may in his cottage bid defiance to all the forces of the Crown. It may be frail – its roof may shake – the wind may blow through it – the storm may enter – the rain may enter – but the King of England cannot enter! – all his forces dare not cross the threshold of the ruined tenement! (Langheinrich 2005:331, Henrici 2008:28).

Local privacy cannot be seen as the area of a household or home only. With wider or narrower limits, other areas of spatial privacy can be defined as well. It may be a single room within the house or even the human body that restricts an area of

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[20] Speech on the Excise Bill, House of Commons (March 1763)

privacy. The integrity of the body is a kind of local privacy. At the other end the borders of a town, a country, or a state can be reckoned as an area of privacy of a group of people.

2.2.3 Informational privacy

What Langheinrich describes as *data privacy* points to another important aspect of privacy, *informational privacy*. It takes into account the treatment of personal information, or information that can be somehow related to an individual. Personal information includes *communication* i.e. transfer of information between individuals. Communication has been protected by laws in Western countries for centuries. "The law of privacy can be traced as far back as 1361, when the Justices of the Peace Act in England provided for the arrest of peeping toms and eavesdroppers" (Banisar & Davis [n.d.]:4).

One well known definition of privacy can be found in Samuel Warren's and Louis Brandeis' article *The Right to Privacy* of 1890 published in the Harvard Law Review. Warren and Brandeis set up a law firm in Boston. The Jewish Brandeis later became a judge of the Supreme Court of the United States. Their article gained a lot of relevance in North American jurisprudence. It was a "marker in the legal history of privacy" (Etzioni 1999:189), and "served as the basis for hundreds of legal cases in the century that followed". Charles O. Gregory and Harry Kalven Jr. considered it to be "the most influential law review article ever published" (quoted in Etzioni 1999:189). Warren and Brandeis (1890:1) define privacy as "right to be left alone". The background that provoked them to publish this article was the emergence of new technologies. The invention of photographic film by George Eastman allowed for the making of snapshots, and that was reckoned as an infringement of privacy. Further the progress in printing technology allowed for the spreading of private information more easily and quickly. "Gossip … became a trade, which is pursued with industry as well as effrontery" and "the details of sexual relations are spread broadcast in the columns of the daily papers" (Warren & Brandeis 1890:3). Quick and easy publishing of newspapers provided new business opportunities, and that situation required new journalistic activities in order to keep the business going.

Recent inventions and business methods call attention to the next step which must be taken for the protection of the person, and for securing to the individual what Judge Cooley calls the right "to be let alone". Instantaneous photographs and newspaper enterprise have invaded the sacred precincts of private and domestic life; and numerous mechanical devices threaten to make good the prediction that "what is whispered in the closet shall be proclaimed from the house-tops" (Warren & Brandeis 1890:2).

Warren and Brandeis came to the conclusion that there is a right to privacy based on common law, the "general right to be left alone" (Warren & Brandeis 1890:7). They consider this as similar to the already existing rights affirmed in "the law of slander and of libel" as well as the "common-law right of intellectual and artistic property." But in their understanding the *right to privacy* has a wider and more fundamental scope, and "secures to each individual the right of determining, ordinarily, to what extent his thoughts, sentiments, and emotions shall be communicated to others" (:4). It is obvious that here *informational privacy* is in question, and so is Warren's and Brandeis' definition is fundamentally important for the issues we discuss today relating to information and communication technology.

Warren and Brandeis reacted to the development of new technologies. Today the situation is far more serious, because the rapid development of computer technology and the emergence of new communication means has led to a situation where mainly and often exclusively the informational aspects of privacy are considered. Typically privacy issues are restricted to the question of data protection with data protection laws as an easy, but far too simple, solution. Other aspects like local and decisional privacy, however, have to be considered as well.

2.2.4 Decisional privacy

Rössler goes a step further then Langheinrich and classifies privacy by pointing to three aspects or dimensions, viz. "privacy of place, privacy of information control, and privacy of decision or action" (Rössler 2005:44). She remarks that obviously to all of these three dimensions theoreticians can be found claiming that their dimension is the only one. "Each of the three dimensions that I have distinguished obviously has its own theoretical tradition that considers the dimension in

question to be the true one" (Rössler 2005:224). For our discussion, all dimensions should be considered, and finally the dimensions relevant for the dispute around RFID should be taken into account in detail.

We have discussed local and informational privacy already. The third dimension is *decisional* privacy. Decisional privacy simply refers to the idea that an individual has the *freedom* and the *right* to take his/her own decisions. Griffin calls it "privacy of liberty" (2008:234). Freedom allows a person to take decisions, but these decisions have not only to be tolerated by the other members of society, but, according to Rössler, also accepted without criticism. A person may have the right to take decisions, but when these decisions are criticized or made ridiculous by gossip, for example, privacy is infringed as well. A person must have the *autonomy* to take her/his own decisions, and these decisions may be taken according to the intended objectives and ambitions of a person, what Rössler describes as *authenticity*. A person should have the right to live his/her own life according his/her vision and plans. Decisional privacy allows *self-realisation* of an individual. Rössler (2005:84) concludes, that

> the protection of decisional privacy is necessary so that freedoms in social space and with respect to other individuals in society can be enjoyed in such a way that modes of action, ways of life and projects can be pursued without undesired interference from others. Restraint, inattention, reserve and indifference – as forms of respect for this decisional privacy – are expected from others when it comes to the private aspects of the life a person leads in public.

Decisional privacy follows and goes further then local and informational privacy. It is based on local and informational privacy. When RFID normally is linked to informational privacy, it will also have consequences for decisional privacy including the related and later discussed question of freedom/liberty and power.

2.2.5 Positive and negative freedom

The definitions above have described privacy as freedom within a certain area, related to space, information or free actions. It is seen as the right "to be left alone", as the possibility to act freely without external infringement of the private sphere, or "to be free to the degree to which no man or body of men interferes with my activity" (Berlin 2008:169). Thomas Hobbes gives a similar definition in

chapter XXI of his *Leviathan*, "… a freeman is he that, in those things which by his strength and wit he is able to do, is not hindered to do what he has a will to" (Hobbes 1996:177).

In his essay *Two Concepts of Liberty* the Jewish philosopher Isaiah Berlin (1909 – 1997) describes this form of freedom or liberty[21] as *negative*. Berlin, who was born in the former Soviet Union and emigrated to the United Kingdom worked on the different notions of freedom in the Soviet Block (promoting *positive freedom*) and the Western countries (promoting *negative freedom*). He defines negative freedom as an answer to the question:

> What is the area within which the subject – a person or group of persons – is or should be left to do or be what he is able to do or be, without interference by other persons? (Berlin 2008:169).

But if this personal freedom is unlimited, it will lead to "social chaos" (Berlin 2008:170). "Only the social movement … of the Anarchists" (Berlin 2008:195) have fostered this thought of total liberty, i.e. the absence of any rules. Anarchism is a political philosophy assuming that governmental regulations and the state in general is superfluous. Anarchists strive for a stateless society – an anarchy.

Natural circumstances limit negative freedom. The same is true for laws and regulations enacted by humans in a state or any other organisation executing authority over individuals. Every society needs some kind of regulation in order to function and so maintain individual freedom.

In contrast to negative freedom *positive* freedom has to do with self-actualisation of the individual, or *self-realisation* as Berlin (2008:187) puts it. He defines positive freedom as an answer to the question, "What or who is the source of control or interference that can determine someone to do, or be, this rather than that?" (Berlin 2008:169). A person may be frustrated by desiring the wrong aims, maybe by misunderstanding the consequences or desiring the impossible because it infringes natural laws. Reason is the key to guide the will into the right direction. Scientific research, for example, can increase knowledge and help to find other ends for our self-realisation. "Knowledge liberates not by offering us more open possibilities amongst which we can make our choice, but by preserving

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[21]   "Berlin uses the words ‚freedom' and ‚liberty' interchangeably" (Berlin 2008:VI note 1).

us from the frustration of attempting the impossible" (Berlin 2008:190). This could be understood as second ego, defining what we *really* want. Kant, Hegel, Marx, Rousseau and other philosophers all developed theories on how reason leads to a certain understanding of societies and certain ends that others tried to realise with or, often, without success. Positive and negative freedoms are exaggerated concepts and are always mixed in a society or a state in different forms (Heun 2000:321f).

The Stanford Encyclopaedia of Philosophy defines positive freedom in ways that demonstrates its collectivistic aspect. It defines freedom as follows,

> Positive liberty is the possibility of acting — or the fact of acting — in such a way as to take control of one's life and realize one's fundamental purposes. While negative liberty is usually attributed to individual agents, positive liberty is sometimes attributed to collectivities, or to individuals considered primarily as members of given collectivities (Carter 2008:1).

This collectivistic aspect finally leads to a misuse of the term "freedom" by ideologists and tyrants.

> Yet the 'positive' and 'negative' notions of freedom historically developed in divergent directions, not always by logically reputable steps, until, in the end, they came into direct conflict with each other (Berlin 2008:179).

The "positive doctrine of liberation" can be found "at the heart of many of the nationalist, communist, authoritarian, and totalitarian creeds of our day" (Berlin 2008:191). Despite these negative examples regulations are still needed for a functioning society. Otherwise there would be anarchy. Societies and states need laws, a functioning state structure with a minimum of democratic structures (Heun 2000:322), otherwise freedom (negative and positive) and in consequence protected privacy would not be available.

The discussion about positive freedom makes it clear that privacy and freedom are counterparts to laws and authorities, executing power over subjects. The question of power has to be examined in order to understand privacy issues correctly. The complementary issues of privacy and power in Jewish and Christian contexts will be examined in the following sections.

It may be added here that Berlin is not very positive about the ancient understanding of privacy. He remarks that "the notion of individual rights was absent from the legal conception of the Romans and Greeks" (Berlin 2008:176). And the "sense of privacy itself … for all its religious roots, is scarcely older, in its developed state, than the Renaissance or the Reformation." From Augustine to the reformers the church was very dominant in Christianity, and put an emphasis on the collectivistic aspects of Christian faith, but then the reformers in turn emphasised the individualistic aspects, like personal conversion and the responsibility of the individual before God. We can expect to find individualistic as well as collectivistic aspects in the Jewish and Christian creeds.

2.2.6 Freedom in Christian thought

The concepts of positive and negative freedom are related to the sociological, political and juridical area. Freedom has many other aspects when ethical and theological questions are considered. Jewish and Christian understandings of freedom add further aspects. The starting point is the relationship of people with God (Adriaanse 2000:315). This relationship determines inter-human relations. The Swiss theologian Emil Brunner (2002:107) summarises this in his anthropological work *Man in Revolt:*

> In the Christian conception, however, community is not only a concrete working out of [hu]man's destiny; it is also the concrete limitation of the 'I'. The Divine 'Thou' is not confronted by a single human 'I' – for if this were so such a self would not be responsible, a being with genuine ties – but by a number of selves who recognize that the bond which unites them with God also unites them with one another.

Brunner contrasts this theocentric concept to a secular understanding of autonomy. "The self which understands itself as autonomous reason […] *has no limits*, for no one stands 'over against' it" (Brunner 2002:107, my emphasis). The Christian concept of freedom requires limits that lead to a responsibility in inter-human relations.

In the Christian understanding human beings are not free but enslaved by sin (John 8:34). Jesus promises, "if the Son sets you free, you are truly free" (John 8:36, cf. Rom 8:21, Gal 5:1.13). The German Professor of Theology at Charles

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Sturt University, Canberra, Australia, Thorwald Lorenzen (2008:33) includes specific Christian teachings and defines three levels of liberation.

> The first step toward a life of freedom is that we want to be free. The second step is the promise and the assurance that we can be free because God has laid the foundation for our freedom and empowers us for the journey ahead.

He explains the difference between the first and second level of freedom, "The good news is not that we shall have easy lives … The good news is that we shall not walk alone; that God cares; yes, God cares like a shepherd …" (Lorenzen 2008:33). And he adds the third level. "By raising Jesus from the dead, God has liberated us from the power of death, sin and estrangement."

For the "journey ahead" we need guidance as Jesus guided His disciples. In light of the discussion regarding positive and negative freedom, here is the emphasis on positive freedom. We strive for guidance and search for principles in ancient texts that can be applied to today's situations. "We Christians must recognise, by the very fact that we are a people of the book, that we are a community which lives through memory. We do not seek a philosophical truth separate from the book's text" (Hauerwas 2003:70). This quotation puts bluntly how we are to reach "positive freedom" in the Christian realm. This positive freedom is not arbitrary and does not put any coercion on believers (cf. 1Cor 6:12, 1Cor 10:23). When Hauerwas (2003:80f) describes Jesus' power guiding His disciples he states that this power "does not serve by forcing itself on others. Thus he 'calls' the disciples and teaches them to be faithful, but he does not try to control their responses." This presents a way between total negative freedom leading to anarchy and riotousness on the one side, and, on the other side, tyranny and the oppression of people.

2.3 Privacy in the Judeo-Christian context

In an article in a South African scientific magazine Louise Kretzschmar, professor for Theological Ethics at UNISA, contrasts secular Ethics with Christian ethics. She states:

> Christian ethics both incorporates and critiques other understandings of ethics, based upon its distinctive Christian framework or paradigm

drawn from the Bible, tradition, reason, the work of the Holy Spirit and experience – influenced by the cultures of its interpreters and practitioners (Kretzschmar 2010:569).

In a similar way the ethicist and professor for Comparative Studies and Religion at Emory University, Atlanta GA, James M. Gustafson, lists four information sources for Christian ethics:

> Christian theological ethics can be tested for their adequacy with reference to four sources: (a) the Bible and the Christian tradition; (b) their philosophical methods and principles; (c) their use of scientific information and other sources of knowledge of the world; and (d) human experience broadly conceived (Gustafson 1992:143).

So far chapters 1 and 2 have described the present situation with no or little relation to Christian thinking. That is related to Gustafson's points (b) and (c). Now we will continue with point (a), investigating whether there are biblical texts dealing with privacy issues and what these scriptures mean for our understanding of privacy? Recently Yoram Hacohen, head of the *Israeli Law, Information and Technology Authority* (ILITA), wrote in his invitation to the 32nd Annual Conference of Data Protection and Privacy Commissioners:

> For hundreds of generations, privacy has been recognized as a fundamental human right in Israel. It was mentioned in the Bible in the phrase "How fair are your tents, O Jacob, Your dwellings, O Israel" (Numbers 24:5), interpreted to mean that the tents of the Israelites faced away from each other in order to ensure the privacy of their dwellers (Hacohen 2010).

This interpretation of Num 24:5 seems to be a bit far-fetched and demonstrates the difficulty to find clear statements related to privacy in the Old Testament. A more detailed investigation will be needed for a more substantial answer to the subject in question. In the following section, Biblical texts in relation to privacy and their exegesis by Jewish and Christian scholars will be examined. Further, the use and abuse of power in the Bible are assessed in this study. This will help to appreciate the ethics of privacy found in the Bible.

2.3.1 Created in God's image

In Jewish and Christian anthropology the statement in Gen 1:26, that human beings were created in the *image* (Hebrew *zelem*) and in the *likeness* (Hebrew

d'mut) of God, became an issue of prime importance, despite the fact that these expressions of God-human similarity are used in Gen 1:26,27, 5:1, and 9:6 only[22]. Both expressions, the *image* and the *likeness* of God, are used before the fall in Gen 1:26. But in the following verse, in Gen 1:27, the *image* is mentioned only. From this Tertullian, and following him Origen, concluded that the *image* (*imago*) was maintained, but the *likeness* (*similitudo*) can only be restored "through the renewing activity of the Holy Spirit" (McGrath 2001:441). The *imago* was seen as the ontic human traits or related to the human existence, mainly reason and free will, for example by Augustine (:441). This twofold understanding can be found in works of the church fathers particularly Irenaeus, Tertullian, Origen, or the old church in general, and also in the work of the scholastics. There had been many disputes about the meanings and differences of *imago* and *similitude*, and "a huge speculative overload on the concept of God's image" (Kessler 2011:532). There emerged a lot of other interpretations in the course of church history, which we will not discuss here. A detailed summary can be found in Kessler (2004:197-217). Finally, the reformers refused the distinctive interpretation of *image* and *likeness* and interpreted Gen 1:26-27 as *hendiadys* without any difference in meaning (Joest 1996:354).

In Gen 1:26 the expressions God's *image* and *likeness* are used in connection with the creation and the reign of human beings over nature. Gen 5:1 refers to the creation of male and female in the *likeness* of God. After the flood God confirms his covenant with Noah and his family; and again makes reference to the *image* of God when he forbids killing of human beings (Gen 9:6). Killing human beings was not acceptable even before this commandment was given. Already Cain had killed his brother and offended against this commandment. Furthermore the flood itself had been a Godly punishment because "the earth became corrupt and filled with violence" (Gen 6:11). The course of these incidents supports the conclusion that the *imago Dei* necessitates the setting up of human rights (see section 3.4).

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[22] There are two further texts in the deuterocanonical books, Wisdom 2:23 and Sirach 17:3.

For our argument the aspect of human dignity is of most important. Volker Kessler (2004:212-217) lists eight aspects that follow from the interpretation of the *imago Dei*. One of them is *human dignity*. He emphases that human dignity is not only significant for the protection of human life and the prohibition of murder (Gen 9:6, Ex 20:13, 21:12), but it is repeated in verse 20 and applied there even to the murder of slaves. That is an exception in antiquity, as in other cultures the life of a slave was of no value, at least not comparable to the life of a citizen. Kessler concludes, "According to the Old Testament even slaves have dignity, and that is finally derived from the fact that they are created in the image of God as well" (2004:217, my translation). This underlines the universal meaning of human rights based on the biblical teaching of *imago Dei*.

Human dignity constitutes social behaviour. The privacy issue in question can therefore be seen as part of human dignity based on the *imago Dei*. This understanding of the image of God as "the original uprightness and dignity of human nature" (McGrath 2001:441) can already be found in Lactantius, a 3rd century church father:

> In his *Divine Institutions* (c. 304-11) Lactantius argued that being created in the image of God established the common identity and dignity of all human beings, leading directly to a series of political doctrines concerning human rights and responsibilities (McGrath 2001:441).

The relationship between human dignity and human rights will be discussed later in this study.

2.3.2 Noah's privacy

There is another incident in the Bible that has to do with privacy and the infringement of privacy. In Gen 9:20-27 we are told how Noah got drunk with wine, and how his son Japheth saw his father naked, while the other sons, Shem and Ham, "looked the other way so they would not see him naked" (Gen 9:23). There is no report of any commandment not to look at a naked person, but after the fall Adam recognised that he was naked (Gen 3:10), and, obviously, developed a sense of shame. God responded to that by making "clothing from animal skins for Adam and his wife" (Gen 3:21). So God accepted the human sense of shame

and prevented human's looking at nakedness. That is also supported by later commandments. For example, when an altar was built, no stairs should be used. "And do not approach my altar by going up steps. If you do, someone might look up under your clothing and see your nakedness." (Ex 20:26). This instruction delineates the service to God from other ancient religions in the Near East area as Nahum Sarna puts it,

> The altar must be designed as to permit access to it with suitable propriety. This contrasts with many scenes in ancient Near Eastern art that feature priest officiating in the nude. Ritual nudity is a phenomenon known to many religions. It is symbolically associated with both death and rebirth, and it also has a variety of magical uses (Sarna 1991:117, cf. Fensham 1977:144).

Nakedness should not divert someone from the worship service. Intimacy and nakedness are parts of privacy that are sanctioned by God and limited to certain occasions like sexuality within the limits of marriage. This order incorporates obligations on both sides not to look at nakedness like Noah's son, and not to show nakedness as in the case of the sacrificing person at the altar. Privacy has to be protected by the person claiming privacy, and privacy may not be infringed by others.

2.3.3 Protection of human beings in the Decalogue and the Law

When God confirmed His covenant with Noah and his descendants after the Flood (Gen 9:8), He gave three commandments to Noah: the commandment of procreation, the prohibition of eating blood, and the prohibition of murder. So far there had been no complete corpus of commandments in the Old Testament. But with the emergence of the people of Israel a more comprehensive legislation was required in order to organise Hebrew society. So, after the exodus, at Mount Sinai the law, including the Ten Commandments, was given through Moses to the people.

How can these regulations, the Decalogue and the Mosaic Law, be of help in our examination of privacy in ancient Palestine? Do these regulations define a sphere, in which the individual may live freely? If this were the case in ancient Hebrew society, it may still be valid for contemporary societies. The German ethicist Horst Afflerbach comes to such a conclusion:

> God will give us a large free space for life, if we like it or not. This space is framed by the landmarks and boarders of His commandments. Within this living space human beings may move freely and accountably (Afflerbach 2003:363, my translation).

Outside this shelter we will suffer a loss concludes Afflerbach (:363). The meaning of the Ten Commandments will be examined in the next section in order to find out their influence in determining the freedom of the individual and what it means for the privacy of the individual.

2.3.3.1 The Ten Commandments

The expressions *Ten Commandments* or *Decalogue* are derived from the "ten words" mentioned in Deut 10:4 (Afflerbach 2003:363). The expression *word* compared to *commandment* conveys a gentler connotation and has not the strictness of a command. The *words* of the Decalogue are to assist in building a suitable society increasing the happiness of its members. The expression *ten words* further emphasizes the importance of these commandments compared to the further commandments of the law given at Mount Sinai. The Decalogue forms a broad and fundamental regulation for the daily life within society.

> With all ten [commandments] together, we have coverage of all the major aspects and domains of human life. They provide a holistic perspective, dealing with speech, action and attitude. They deal with both our vertical relation to God and our horizontal relation to people (Gill 2004:53).

There are analogies regarding the prohibitions on murder, theft, and adultery compared to other ancient societies, "which are found in a large number of human cultures" (Moore 1984:174). Moore contents that the Ten Commandments go much further than the laws of other cultures. They "also include injunctions to honor parents, refrain from bearing false witness against a neighbor", and the last commandment "is especially significant in requiring not only moral behavior but a moral attitude" (Moore 1984:174). We can, therefore, expect wide-reaching and comprehensive regulations, even exceeding the legal corpuses of other ancient societies.

The Ten Commandments are usually divided into *two tables*. This division reflects the fact that the first three commandments,[23] forming the so-called first table, regulate the relation to God. The following part, the so-called second table, contains commandments that are related to the neighbours. When Jesus summarises the law in Mt 22:37-40, he points out the same two aspects, "You must love the Lord your God" (quoted from Deut 6:5), and "Love your neighbour as yourself" (quoted from Lev 19:18). For the discussion of privacy, the last category is most significant, and will be discussed now.

The fifth commandment regulates a special relationship, the relation to the parents. It is, therefore, limited to a specific relationship compared to the further 5 commandments that are related to the *neighbour*, a representative of all persons with whom someone may have something to do. Only the 7th commandment, the prohibition of adultery, is concerned with the relationship between spouses. So the 5th and 7th commandments refer to relatioshipns within a family.

Honouring the parents (commandment 5) is not specific here. The anecdote of Noah, discussed before, can be seen as an example illustrating this commandment. The Apostle Paul quotes this commandment in Eph 6:1, and calls on children to obey their parents "because you belong to the Lord." Then the Apostle requests the fathers, "not provoke your children to anger by the way you treat them. Rather bring them up with the discipline and instruction that comes from the Lord" (Eph 6:4). Both parts of the parents – children relationship are responsible for keeping this relationship intact by their behaviour. Even more, parents and children are asked to develop and enhance the relationship in the Lord. This includes respecting not only the other person but also the privacy of the other. This mutual respect can further be found in the master – slave relationship (Eph 6:5-9), and in the marriage relationship (Eph 5:21-33). In conclusion we can say that a Christian has the obligation to improve all his relationships by behaving according God's perception, avoiding infringement of privacy which could endanger and harm these relationships.

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[23] I will use the numbering of the commandments that is used by the Orthodox, Reformed, and Anglican Churches. Jews, the Roman Catholic and the Lutheran Churches follow different numbering systems (Köckert 2007:35).

Murder (commandment 6) is of course the most intense infringement of an individual, and of course of the individual's privacy. There is no doubt that "death deprives our neighbour of all freedom" (Gill 2004:188). Murder is already prohibited in Gen 9:6. There human life is linked to the *imago Dei.* Gill (2004:187) writes,

> We must not murder because all life belongs to God. God's culminating work in creation is making man and woman in his own image and likeness. Murder is a direct attack on the pinnacle of God's creation.

This creates a strong link to the contemporary human rights debate, and it will be discussed in section 3.4.

The 7th commandment, the interdiction against adultery, also legislates against the violation of personal rights, of the betrayed spouse and of the potential casualty of fornication. This commandment was interpreted by the reformers Luther and Calvin very widely. Luther comments in his *Large Catechism*, "this commandment applies to every form of unchastity, however it is called. Not only is the external act forbidden, but also every kind of cause, motive, and means" (Luther 1983:25). Also Calvin remarks that the spouses should "each so acting as not to do any thing unbecoming the dignity and temperance of married life." And he adds about the Lawgiver, "while he forbids fornication, he at the same time forbids us to lay snares for our neighbour's chastity by lascivious attire, obscene gestures, and impure conversation" (Institution 2.8.44). The reason for this wider understanding may be Jesus' remark that "anyone who even looks at a woman with lust has already committed adultery with her in his heart" (Mat 6:28). This type of wider interpretation is also found in relation to the Ten Commandments. It is already contained in the meaning of the last commandment, not to covet. When we understand adultery in its original sense, it harms marriage and the other partner. This commandment is a protection of this relationship and a fostering of this relationship, as Walter Harrison describes it,

> "Thou shalt not commit adultery" is not an enslavement but a *liberation*, not a threat to freedom but a *means to freedom*, not a thwarting of life's flowering but an incentive to the flowering of human relations, including sexual relations (Harrelson 1980:187 quoted in Gill 2004:224, my emphasis).

This interpretation shows the link to liberty, positive liberty in the sense of Berlin. Adultery seems to give more freedom to one partner, but in effect the result is suffering for all participants and a lack of freedom.

The 8th commandment "Do not steal" protects a person's property. Stealing normally means to entering the premises of another person, and, therefore, it is linked to local privacy as defined in section 2.2.2. With this commandment the Bible protects certain cases of *local privacy*. The Hebrew verb for stealing or robbing used here is *ganav* (גנב)[24]. It occurs 55 times in the Old Testament (Lorenzen 2008:131). In several places (for example Ex 21:16, Deut 24:7) it is used in relation to persons in the sense of kidnapping. The patriarch Joseph says to the chief cupbearer of Egypt that he was "stolen out of the land of Hebrews" (Gen 40:15). Rabbi André Chouraqui explains this wider meaning of theft:

> Theft consists of fraudulently subtracting from the property of another, … including not only the action of stealing but also *kidnapping*, robbery, piracy, larceny, fraud, and any other actions that tend to subtract fraudulently the goods of another (Chouraqui 2000:196 quoted in Gill 2004:251f, emphasis mine).

Lorenzen interprets this sense. "Since God is a God who loves freedom, the taking away of a person's freedom through slavery or serfdom or as booty is a serious offence" (Lorenzen 2008:132). It is a far more serious infringement of privacy when a person is sold into slavery then only stealing his/her property. Slavery is not God's intention. Although the New Testament does not attack the system of slavery, the Apostle Paul writes to the slaves, "if you get a chance to be free, take it" (1Cor 7:21). And there are numerous scriptures in the Old Testament and the New Testament addressed to the masters requesting them to treat their subordinates respectfully.

The next commandment, "Do not bear false witness", protects the neighbour's reputation, not only in the public realm but also in court cases, where false witnessing may lead to unjustified punishment, even capital punishment. But for our discussion the protection of someone's reputation and the prevention of

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[24]   cf. the German and Yiddish word *Ganove*, meaning *criminal* (Roston 2002:191f).

gossip are of most importance. This includes the protection of informational privacy as defined in section 2.2.3. "[T]he commandment covers all forms of slander, libel, gossip, talebearing, insinuation and insult of one's neighbour" (Gill 2004:283). Gill also states that modern communication technology, to which RFID belongs, widens the possibilities of violating the other's privacy. "Using information technology we can more easily bear false witness, spread information, profane and degrade God and others, and hide behind anonymity" (Gill 2004:160). The desire to put a stop to gossip and libel was Warren's and Brandeis' motivation to write their famous essay on *The Right to Privacy* in 1890.

The last commandment is special in that respect, as it does not prohibit any recognisable activity directly. Not to covet is a mental attitude not necessarily with any visible effect. Jesus follows this way of thinking in His Sermon on the Mount, when he emphasises the attitudes that hide behind acts against the several commandments. For example, when he interprets the prohibition of murder, He says, "if you are even angry with someone, you are subject to judgement" (Mt 5:22). Jesus underscores the invisible motivations that lead to visible actions prohibited by the commandments five to nine.

2.3.3.2 The Mosaic Law

The law given to the people of Israel comprises in addition to the Decalogue with its basic commandments, more then 600 further prescriptions. According to the medieval Jewish tradition, there are 613 commandments, split into 248 imperatives and 365 interdictions (Ouweneel 2001:279). First of all there are a large number of ceremonial regulations regarding the sacrifices, the feasts, and all other kinds of service in the tabernacle or the temple. There are building instructions, time schedules, and many instructions for the priests and Levites on duty. For our discussion on privacy, the regulations for daily life are the important ones.

The Ten Commandments are not a sufficient means for jurisdiction. They compile basic ethical principles that need to be worked out in law codes and statutory laws.

> The Decalogue does not belong to the domain of jurisdiction; it belongs to the ethos and to the domain of attitudes. It fixes essential limits preceding all laws. Without acknowledging the Decalogue there are no laws. As a consequence of this the Decalogue has a regulating function for the law (Köckert 2007:22, my translation).[25]

The law can bee seen as commandments related to the Ten Commandments (*apodictic right*) giving more specific instruction about how to deal with certain cases (*casuistic right*). For example, the prohibition of murder is a fundamental commandment, but how to deal with cases of unintended manslaughter is described in Ex 21:13, Num 35:6-15, and Deut 19:1-10. The installation of the "cities for refuge" is described in Josh 20:1-9. In general the *lex talionis* was applied in order to claim just punishments (Moore 1984:178). This means that the evil corresponds to the punishment. "Your rule should be life for life, eye for eye, tooth for tooth, hand for hand, foot for foot" (Deut 19:21, see also Ex 22:23-24).

The commandments are often very detailed, and do not hesitate to mention the most private and intimate subjects. The law given by God does not exclude any sphere of privacy. Even defecation (Deut 23:12-14) and all kinds of human sexual activities are regulated. These regulations prevent the members of the society from impurity and defilement. Often there is obviously a hygienic background. The individual is protected against oppression and misuse by others, and also against infections. So, in a certain sense, the individual her/himself and the privacy of the individual are protected.

2.3.4 Privacy in ancient Hebrew society

The second part of the Ten Commandment regarding the relation to the neighbour expresses the mutual respect amongst individuals that is needed to form a flourishing society. These commandments are obviously based on human dignity as conveyed by the *imago dei* discussed in section 2.3.1. The following texts of the Old Testament are based on the Ten Commandments. They contain further regulations about how to behave in certain cases, and they contain narratives that point out the applications of the Ten Commandments.

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[25] Original German Text: "Der Dekalog gehört also nicht zum Recht, sondern zum Ethos und zur Gesittung. Er zieht äußerste Grenzen, die allem Recht vorausliegen. Ohne dessen Anerkennung gibt es kein Recht. Insofern hat der Dekalog auch regulative Funktion für das Recht."

2.3.4.1 No privacy in relations

In Psalm 139 the author describes and praises his experiences with Yahweh. David, who had written this psalm according to the headline, writes about his close relationship to God. Obviously David's experiences before he became king influenced this text. David was persecuted by King Saul and urgently needed God's help in often hopeless situations. He states that God knows everything about him, his thoughts, his words, his dwelling places, his past, and his future. Everything lies open for God. There seems to be no privacy for David in his relation to God, and, accordingly, there seems to be no privacy for a Christian in her/his relation to God. "[T]here might not really be a Christian notion of privacy when life is lived in the perpetual surveillant gaze of God" (Stoddart 2011:132). Is there, nonetheless, still any basic principle regarding privacy that we can learn from Psalm 139?

In the first paragraph (Ps 139:1-6), the writer ascertains that God knows everything about his thoughts and what he is going to say. This, for example, corresponds with the definition of informational privacy as stated by Rössler and referred to earlier. The second paragraph (Ps 139:7-12) is related to local privacy when David states that God is close to him everywhere, even at the "farthest oceans". Also darkness provides no cover from God's presence. The next verses describe that God was always there, even before David's birth. Here the dimension of time is introduced. The close relation to God and the corresponding lack of privacy does not change within time. This is a new aspect that will be discussed later. Finally we find an indication of decisional privacy, or, better, the lack of it. In the final two verses David asks for an examination of his life to be heard by God.

> Search me, O God, and know my heart; test me and know my anxious thoughts. Point out anything in me that offends you, and lead me along the path of everlasting life (Ps 139:23-24).

The text does not go so far as to talk about activities and decisions, but it is obviously David's desire to take the right decisions and go the right way in accordance with God's will. "We are not to suppose that the Psalmist had any desire to flee from God, but the truth is quite clear to him that if he wished to do

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so he could not" (Scroggie 1951:48). Leslie C. Allan (1983:263) summarises this Psalm:

> Not omniscience but constant exposure to divine scrutiny (Heb 4:13), not so much omnipresence as confrontation with an unseen Person at every turn, not omnipotence but divine control of a creature's life – these are the heart-searching themes of the psalm.

We find here hints of local, informational and decisional privacy as described in sections 2.2.2, 2.2.3, and 2.2.4. The aspect of time is new. Here the privacy does not change over time, but in other relations privacy may vary. For example in the parent/child relation the privacy of the child grows with the development of the child. A new born baby has no privacy at all, similarly to David in this psalm in his relation to God. An adult has a different relationship to his parents to that of a child's relationship with his parents. "[A] man leaves his father and mother and is joined to his wife" (Gen 2:24). Even in relatively closed collectivistic societies during the period of adolescence relationships are changing and the young adults build up their private spheres.

Like in the parent/baby relationship the God/person relationship is characterised by a lack of privacy on the subordinate's side. God is on a level so high above human beings that a human being cannot have, and in the case of the psalm writer does not desire to have, any privacy before Him. His thoughts are always higher then our thoughts, and His ways are higher then ours (Isa 55:8-9). The loving kindness of God as supposed by the believer will not "abuse" this lack of privacy, but will be a Helper even in our most intimate sorrows. In the God/human being relationship God is the only associate in this relationship that has privacy, as it is expressed in Deut 29:29, "The Lord our God has secrets known to no one." The greatness of God will always leave an area to God, where humans cannot enter.

The critical conditions are relationships among human beings on the same or at least similar level. In order to build up relationships individuals bring their private spheres together. They open them for one another. This is the case in a marriage in a marked way. The Song of Songs is a speaking example of this. The bride says, "When I found my love! I caught and held him tightly, then I brought him to my mother's house, into my mother's bed, where I had been conceived"

(Song of Solomon 3:4). This woman brings her beloved into the most private places of her life in order to intensify the relationship. Otherwise it is not recommended to be to open in other cases. "Don't visit your neighbours too often, or you will wear out your welcome" Prov 25:17). Here a certain distance is suggested in order not to endanger this more distant relationship.

Human beings live in different social and economic circumstances. They are male or female, young or old, poor or rich, etc. In organisations they are in different positions. Some are leaders, others are subordinate. Leaders have power over other human beings. This will have an influence on the privacy of the subordinated human beings. This will be further discussed in section 3.

2.3.4.2 Protected marriage

In the following two examples dealing with Israelite kings the kings abused their power in order to satisfy their own desires. The first occasion is David's adultery committed with Bathsheba (2Sam 11). David, who already had six wives (2Sam 3:25), coveted his neighbour's wife, infringing the 10th commandment, and committed adultery, infringing the 7th commandment. Finally, he organised that Bathsheba's husband, Uriah the Hittite, was killed in the fight against Rabbah, the Ammonite capital, an infringement of the 6th commandment. In Hebrew society the law is binding even for the most powerful man, the king. The late sociologist and Harvard professor Barrington Moore, Jr. (1913-2005) concludes from this narrative, "If we are to believe this moral tale, a Hebrew monarch was expected to refrain from infringing on the marital rights of his male subjects" (Moore 1984:179). The Mosaic Law protected privacy, and even the king did not have the right to invade the private spheres of others.

2.3.4.3 Protected property

Moore then refers to another episode which happened centuries later. King Ahab of Israel (1Kgs 16:29) *coveted* the vineyard of Naboth as described in 1Kgs 21. Ahab wanted to use the vineyard as his vegetable garden but Naboth refused to sell it to the king. With the help of his wife Jezebel, Ahab had Naboth accused falsely and provoked his conviction so that he was finally stoned to death. Ahab

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desired Naboth's vineyard. That was a violation of the 10th commandment not to covet. Then Ahab's wife managed things so that Naboth was accused falsely by "two scoundrels" (1Kng 21:10), a transgression of commandment nine not to bear false witness. Finally, Naboth was stoned to death by the inhabitants of Jezreel, a violation of commandment six not to murder. King Ahab and his wife Jezebel were effectively responsible for committing all these sins

Naboth's reason for refusing to sell was his regard for the heritage of his ancestors. "The Lord forbid that I should give you the inheritance that was passed down by my ancestors" (1Kgs 21:3). Land was allocated by the Lord to the tribes and families of Israel (Josh 13-21). This property could be sold, but in that case it should be returned to the original owner during the so-called Year of Jubilee (Lev 25:10,13)[26]. This procedure secured the original division of the land and prevented the continual pauperisation of families. For example, King David once bought a threshing floor from Araunah the Jebusite (1Chron 21:18-25). This episode shows that selling to the king is acceptable but with the consent of the seller. In Naboth's case the king should have accepted the potential seller's refusal, but he did not. As in David's case with Bathsheba, the king violently interferes with the private sphere of his subjects and acts against the will of God as it is expressed in the Mosaic Law. In David's and Ahab's cases respectively a prophet (Nathan and Elijah) announces the judgement of the Lord that, then, inevitably took place. Moore concludes from these two episodes with the Hebrew kings:

> [T]here appeared restraints on the monarchy in the form of private or individual rights. The monarch was not to use his power against a subject purely for his own personal advantage. In this situation the king was subject to the same ethical restraints as any other adult male member of the community. These restraints, embodied in the Tenth Commandment, long antedated the monarchy (Moore 1984:181).

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[26]   It is of course doubtful if and how often this commandment of Jubilee has been realized in Israel (cf. 2Chron 36:21). John Howard Yoder claims that Jesus proclaimed Jubilee in 26 CE (Yoder 1994:68) including "the redistribution of capital" based on Lk 12:30-33 (Yoder 1994:69, cf. Reimer 2009:250).

Moore here puts emphasis on the 10th commandment as a significant instrument to protect "the rights of the ordinary individual against arbitrary actions by the king" (Moore 1984:181).

God as the higher power forced the punishments of David and Ahab, and so protected the rights of the powerless, in these cases Uriah and Naboth. God did not prevent the murder of Uriah and Naboth but accused and punished the evildoers afterwards. In the Psalms, and in many other places, the oppressed are crying to God and ask for liberation and revenge. And as response to that, there are many scriptures stating that God protects the widows, orphans, and aliens. Finally, it is God's righteousness that will lead to the righteous punishment of the evil doers. But the timing often may not be suitable to the expectations of the injured persons (cf. Rev 6:9-11). Even today, God's Final Judgement still has to come and that will be the realisation of God's righteousness.

2.3.4.4 The revelation of sin

The expression *sin* has many connotations. In general it describes the broken relationship of human beings with God (Krötke 2004:1867) and the consequences thereof. "It is something which contaminates our lives from birth, and dominates our lives thereafter" (McGrath 2001:445). There is "a sinful disposition as part of human nature, with an inherent bias toward acts of sinning." Sin causes "individual acts of sinning." These acts of sinning are deeds against God's expressed will, His commandments or orders. As human beings often try to hide their sinful acts, i. e. keep them in privacy, any desire to reveal these sins will have to do with revealing private actions. For our discussion, it is useful to examine how privacy is protected or disclosed in such cases.

In the case of "acts of sinning" the Old Testament does not bother about protecting the privacy of sinners. Sins of individuals have to be revealed in order to protect the community. In the case of Achan son of Carmi, who had taken goods from the plunder of the conquest of Jericho, the sin was not known to Joshua or anyone else (Jos 7:16-26). The Lord had to reveal by lot that Achan was the guilty person. Otherwise the whole community would have to suffer from the consequences of Achan's sin. A similar case occurred when Jonathan, the son of

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King Saul, trespassed the foolish command of his father not to eat before evening (1Sam 14:24-45). Here Jonathan was revealed by casting sacred lots (:41-42). All these cases show that sin will be disclosed, even when it is hidden. There is no protection of privacy in these situations.

2.3.4.5 Privacy in the books of the prophets

For our discussion we can conclude that the Law promulgated in the Decalogue protects the privacy of an individual. Even the most powerful person does not have the right to infringe life, family, or property of an individual as the examples of the kings David and Ahab show. A large part of the Old Testament consists of books of the prophets describing the utterances and activities of the prophets. The prophets talked mainly to the people of Israel and also the surrounding nations when their behaviour showed deviations from the will of God. They indicted the people of their sins and proclaimed God's punishment. The prophets dealt with the *application* of the law. We find, therefore, no changes regarding the law but an interpretation and application of the law to the respective situations.

The service of the prophets is to motivate people to behave according to the will of God as spelled out in the Ten Commandment and the law. That was the case with David and Ahab. Another example is the wife of Israel's King Jeroboam when she visited the old blind prophet Ahijah. The wife was disguised pretending to be someone else. God had revealed to the prophet that she was coming, and even at the doorstep the prophet said, "Come in, wife of Jeroboam! Why are you pretending to be someone else?" (1King 14:6). God reveals information in order to underline His message uttered by the prophet.

Prophets reveal information they have obtained from God; information that no human being has access to. As Psalm 139 discussed above (section 2.3.4.1) and other scriptures show, God knows everything about all human beings, and there is no privacy in the eyes of God. God has all information. Sometimes God reveals pieces of information to His prophets in order to disclose "acts of sinning" as defined above. The prophets address people behaving in the wrong way in the perspective of God and motivate them to return to the right track which is to live in accordance with the will of God. Without God's revelation, prophetic service is

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not possible and makes no sense. This revelation normally includes the disclosure of the privacy of the sinners.

In these cases infringement of privacy is accepted, but only with the motivation of bringing people back to God. It has a curing function. It can be compared to a surgeon who seriously infringes the local privacy of a person in order to cure that person. Or, in the case of the poor English citizen, whose house even the king is not allowed to enter (see section 2.2.2), a fire fighter may well enter, but in case of fire only. It can be concluded that the infringement of privacy may be accepted according Hebrew and Christian thinking, if the motivation is to bring a person back to God's way, or to protect the Hebrew society.

The prophetic messages are not addressed to the kingdoms of Israel and Judah only, but also to the surrounding people (for example Is 14-23, Jer 45-51, Ezek 25-32, Am 1, Obad, Nah). Their sinful acts were depicted, and punishments were announced. The sins, or better "acts of sinning" as defined above, are offences against the Ten Commandments like idolatry, murder, theft, and greed. The punishments are punishments from God's side, but executed by other people like the Assyrians or the Babylonians. The judgement reflects God's majesty and power. It destroys everything, and in the punishment it does not accept any privacy of individuals. Moore, who analysed the book of Isaiah, concludes that "there is little to be found in Isaiah that has to do with what we would call private rights against the social order" (Moore 1984:185). Moore does not see God as the reason for the prophecies, but rather purely Isaiah's human authorship in the texts. He presumes that Isaiah strives for revolutionary social changes in Israel. He claims total destruction of the actual society and desires a fantastic new world:

> Isaiah has little interest in correcting the abuses of the prevailing order, much as he hates them. Instead his imagery focuses on the total destruction of that order and its replacement with one that transcends all previous human experience. In that sense he deserves to be known as the first thoroughly revolutionary thinker in Western culture (Moore 1984:185).

Actually a prophet does not have the power to claim such punishments or such a "revolution". It is God's power and majesty that affirms the prophetic statements. God's ways are always right and without error. The judgements, therefore, are just

and fair. "He will judge the world with justice and rule the nations with fairness" (Ps 9:8). Finally, the prophets always give a perspective of the world to come in peace and justice (for example Is 2:2-5). In this situation the prophets are mediators between God and the people. We cannot, therefore, learn much about privacy here. Privacy issues are more likely to be found when human inter-relationships are examined.

2.3.5 Privacy in the New Testament

First of all, New Testament teachings continue along the line of Old Testament teachings. Even when the law is not seen as the means for our salvation, as explained in the letters to the Romans and the Galatians, the fundamental framework established by the law is fully continued in the New Testament (Ouweneel 2001:38). "The important thing is to keep God's commandments" (1Cor 7:19). God's eternal Torah is always the same, its revelation in time, in the Hebrew society or in Christianity, may be expressed differently, but the underlying principles are still alike.

The Ten Commandments already discussed in the Old Testament context will be discussed in the New Testament context as well. In the New Testament, further principles, like the Golden Rule (Mt 7:12), and Jesus' great love commandment (Mt 22:37), can be found. The epistles often address situations in New Testament churches. We have to determine wether any hint regarding privacy can be found.

2.3.5.1 Jesus' interpretation of the Ten Commandments

The Ten Commandments are never repeated in the New Testament as a complete set of ten commandments; there are only incomplete lists or single commandments (Mt 19:18-19, Rom 13:9, Jam 2:11)[27]. A complete replication is not needed as the knowledge of the Decalogue and the Law of Moses is always presumed. Jesus "did not come to abolish the law of Moses or the writings of the prophets. No, [He] came to accomplish their purpose" (Mt 5:17).

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[27] For a complete list see Kröckert 2007:95.

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In the *Sermon on the Mount* He interprets two of the Ten Commandments (Mt 5:21,27) and some other commandments of the Law (Mt 5:31,33,38,43). Even when Jesus' interpretation of these commandments is often described as *antitheses* (Bockmühl 1999:9f, Gill 2004:56) Jesus confirms and intensifies the original commandments (Ouweneel 2001:124f). The commandment of murder He interprets by amplifying "if you are even angry with someone, you are subject to judgement" (Mt 5:22). The commandment of adultery He interprets by saying that even someone looking "at a woman with lust has already committed adultery with her in his heart" (Mt 5:28). The so-called "antitheses" emphasise the inner attitudes of a person in relation to the commandments. This is in line with the intention of the tenth commandment, not to covet. Here this inner mind-set is addressed, and the tenth commandment can be seen as the nucleus of Jesus' teachings.

His teachings go further than the Decalogue. He requests positive action. Loving ones enemies (Lk 6:27), praying for persecutors (Mt 5:44), giving alms to the poor (Mt 6:1), blessing those who curse one (Lk 6:28), often go further then the Old Testament commandments. "If someone slaps you on the right cheek offer the other cheek also" (Lk 6:38) sums up this attitude. The initially prohibiting commandments are changed to proactive commandments.

In the New Testament property is protected as in the Old Testament. Doors are "locked for the night" (Lk 11:7) in order to protect the home. In the epistles, the instruction "If you are a thief quit stealing. Instead, use your hands for good hard work, and then give generously to others in need" (Eph 4:28) relates to the commandment not to steal, but then broadens it to positive action in order to support the poor. Good works are well known in our Judeo-Christian culture, but we have to consider that in the Roman Empire this kind of goodness was a new matter. "Goodness in an absolute sense, as distinguished from the 'good-for' or the 'excellent' in Greek and Roman antiquity, became known in our civilisation only with the rise of Christianity" (Arendt 1998:73). This underlines the radical change Jesus and Christianity brought to Greek and Roman societies.

There is another important aspect of good works regarding privacy. Jesus says, "Don't do your good deeds publicly to be admired by others, for you will

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lose the reward from your Father in heaven … don't let your left hand know what your right hand is doing" (Mt 6:1,3). If someone is doing bad things, he/she is ashamed of it and tries to hide his/her activity. But when someone does good things, he/she tries to do it openly in order to gain honour like the hypocrites and Pharisees (Mt 6:5, 23:5-7) and the kings and great men, who let themselves be called "friends of the people" (Lk 22:25). But Jesus teaches the opposite.

> When goodness appears openly, it is no longer goodness, though it may still be useful as organized charity or an act of solidarity. … Goodness can exist only when it is not perceived, not even by its author; whoever sees himself performing a good work is no longer good, but at best a useful member of society or a dutiful member of church" (Arendt 1998:74).

We have to decide how we do "good works". If we decide to do them openly, they are no longer good works. We are requested to keep these activities private. The decision to keep them private is part of our (decisional) privacy as well.

It is obvious that we have to respect the privacy of others, when *they* keep this requirement. In the judgement to come, of course, secret things will be revealed, either good or bad deeds (Mt 25:34-45, 10:26, Lk 12:3, Rom 2:5-8, 1Cor 4:5, 2Cor 5:10).

2.3.5.2 The commandment of love and the Golden Rule

In a dispute with the Pharisees Jesus gives an even more compact summary of God's Torah than the Ten Commandments. He summarises the law with two commandments.

> 'You must love the Lord your God with all your heart, all your soul, and allyour mind.' This is the first and greatest commandment. A second is equally important: 'Love your neighbour as yourself.' The entire law and all the demands of the prophets are based on these two commandments (Mt 22:37-40).

This corresponds to the two tables of the Ten Commandments, referring to the relationship with God and the relationship with the neighbour.

An even more general summary of the law and the commandments is the so-called *Golden Rule*, "do to others whatever you would like them to do to you" (Mt 7:12, Lk 6:31). Augustine of Hippo links the Golden Rule with the commandments of love and the Decalogue. "Therefore that single commandment

includes the two, that two include the ten, that ten include all"[28] (Sermo 9:16, Kröckert 2007:104). The Golden Rule uses one's own behaviour as a measuring rod, similar to the second commandment of love. That means, if I want a private sphere, I have to respect the privacy of the other in the same way. The Ten Commandments and all the other commandments are a further clarification of what it means for the other's family and property. Respect for privacy therefore is not limited to the other person but includes his/her family and property as well. We can even think of privacy of an organisation like a company. It is obvious that every company wants to keep its knowledge secret. It, therefore, has its own private sphere. Based on the Golden Rule we can state that a company requiring to keep its secrets should respect the secrets of their employees and customers as well.

2.3.5.3 How to deal with sin and sinners

As already indicated in section 2.3.4.4 dealing with sins is closely related to privacy. Dealing with sins means to disclose these sins and to try to influence the sinner in a way that he/she confesses his/her sins. Then the sins can be forgiven. Normally the sinner is ashamed of his/her sins and tries to hide his/her deeds. The sins, therefore, are often part of the private life of the sinner. When others want to deal with these sins this often means that they have to interfere with the private life of the sinner. We can expect that the principles taught in the New Testament of how to deal with sins will provide principles of how to deal with the private spheres of sinners.

New Testament teaching is, first of all, very practical and situation related. It is narrative as Stanley Hauerwas puts it. "[T]o be a Christian is not principally to obey certain commandments or rules, but to learn to grow into the story of Jesus as the form of God's kingdom" (Hauerwas 2003:30). The epistles give us, on the one hand, a view on situations in the first century church, but, on the other hand, they do not draw a complete picture of the situation at that time. The letters describe the mutual behaviour within the Christian community, and the behaviour

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[28] Original Latin text: "Ergo illud unum praeceptum continet duo, illa duo continent decem, illa decem continent omnia."

of Christians in relation to outsiders. For example, Rom 12:1-13 contains commandments for behaviour within the church, Rom 12:14-21 for the behaviour in relation to outsiders, and Rom 13:1-7 obedience to governmental powers followed by further general commandments. The letters often address local questions and local problems but the circumstances are often not described comprehensively. This is a substantial contrast to the Old Testament, where by the Mosaic Law family and religious life was regulated in every detail. The New Testament seems to pronounce that the gospel is suitable for all cultures, independent of any society-specific and culture-specific regulations. Christian life can be realised in all cultures. The inner life of the believers flows out to become Christian attitudes and Christian behaviour, for example, in the form of "good works". The emerging Christian community influences and transforms the surrounding culture towards a more just and peaceful society actualising the "Kingdom of God" within the society and its culture. The question of privacy has to be examined in this respect when New Testament statements are applied to the privacy issue.

The desired mutual behaviour aimed at in New Testament teaching is characterised by love, respect, and support for the other. The Apostle Peter expresses that in his 1st epistle, "Most important of all, continue to show deep love for each other, for love covers a multitude of sins" (1Pt 4:8). And the Apostle Paul endorses this requirement, "if another believer is overcome by some sin, you who are spiritual should gently and humbly help that person back onto the right path" (Gal 6:1). To help the other requires some but not all knowledge about the other's needs. You have to know that the other may be poor, a widow or an orphan. But this knowledge is normally obvious and cannot be described as an infringement of privacy. And, normally, the person in need has no interest in hiding his/her situation from the helper.

The situation is different when sin is involved. That we have seen from the Old Testament (section 2.3.4.4). The New Testament teaches the very same principle. "We reject all *shameful* deeds and underhanded methods." (2Cor 4:2). Sins are shameful, and the sinner wants to hide his deceitful deeds. The New Testament teaches clearly that all sins will be revealed, at least at the Final

Judgement. "For he will bring our darkest secrets to light and will reveal our darkest motives" (1Cor 4:5). But, in order to deal with sin *now*, sin must be revealed *now*. In Mat 18:15 Jesus describes the case that "if another believer sins against you". The expression "against you" is missing in some manuscripts. Nevertheless it is obvious that it relates to someone who experiences the sin of another directly. The following text assumes that the sin in question is not publicly known. The question is raised about how and when this sin should be revealed to others. The first step is to clarify the case between the two persons involved. Here privacy is still protected. If that does not work, one or two other persons should be involved, so that it "may be confirmed by two or three witnesses" (Mt 18:16). The Talmud describes a similar involvement of others but there the sinner is understood as the active person. The involvement of witnesses is the same. "Samuel said: Whoever sins against his brother, he must say to him, I have sinned against you. If he hears, it is well; if not, let him bring others, and let him appease him before them" (y. Yomah 45c, quoted in Davis & Allison 2004:304). If that does not work, the case shall be taken to the church. Mat 18:15-17 describes that a secret case is revealed step by step, if the desired result, the repentance of the sinner, cannot be achieved otherwise. Further this step-by-step approach shows a lot of respect and caution. "The sinner is taken seriously as a person and is treated, as the sequence shows [the step-by-step process] with an impressive carefulness" (Bruner 2004:223). Privacy should be protected. Bruner compares this to contemporary political systems, and adds, "Private confrontation is almost the legal equivalent of democracy's 'innocent until proven guilty'" (Bruner 2004:224).

The aim is to "win that person back" (Mat 18:15). The Apostle Paul strives for the same result in his letters to the Corinthians. "… and he himself will be saved on the day the Lord returns" (1Cor 5:5) and also in 2Cor 2:5-11 the Apostle argues the same way intending the restoration of a sinner. But when the Apostle Peter reveals the sin of Ananias and Sapphira (Acts 5) there is no restoration, the sinners die immediately. Here Peter's intention is to avert a damage of the church, a warning to insiders and outsiders. "Great fear gripped the entire church and everyone else who heard what had happened" (Acts 5:11, see also 5:13 and

19:17). Paul has the same intention in mind when he confronts Peter with his wrong way "in front of all the others" (Gal 2:14). Of course, Peter has a chance to repent. This way of dealing with such a critical situation should be done very carefully. Paul advises Timothy, "Do not listen to an accusation against an elder unless it is confirmed by two or thee witnesses" (1Tim 5:19). The important service of elders shall not be injured unnecessary by insignificant accusations.

As described in section 2.3.4.5, God reveals secret sin through prophets or prophetic service. Of course, all deeds will be revealed in the Final Judgement. "And all were judged according to their deeds" (Rev 20:13). That is already addressed in the epistles when the "judgement seat of God" (Rom 14:10) and the judgement before Christ is mentioned (2Cor 5:10). Paul employs that principle when he writes to Timothy, "Remember, the sins of some people are obvious, leading them to a certain judgement. But there are others whose sins will not be revealed until later." (1Tim 5:24). Jesus pronounces the same, when he talks about the hypocrisy of the Pharisees:

> The time is coming when everything that is covered up will be revealed, and all that is secret will be made known to all. Whatever you have said in the dark will be heard in the light, and what you have whispered behind closed doors will be shouted from the housetops for all to hear! (Lk 12:2-3).

But it is still God's intention to deal with sin beforehand. He, therefore, reveals sin as in the case of Ananias and Sapphira. This infringement of privacy depends on God's authority, His decision and His revelation. God reveals by his Spirit (1Cor 2:10), and he reveals through human beings. He, therefore, gives the gifts of prophecy and the discerning of spirits (1Cor 12:10). Human beings do not have the right to reveal secret information about a sinner without God's permission, which means without God's clear revelation, or in cases as described in Mat 18.

This question gained importance within church history by the church as the *Confessional Secret* (signum confessionis). In the Roman Catholic Church the Sacrament of Penance includes the confession of sins and the absolution by the priest. The 4th Lateran Council in 1215 laid down the obligation of the seal of the confessional:

> But let him exercise the greatest precaution that he does not in any degree by word, sign, or any other manner make known the sinner, but should he need more prudent counsel, let him seek it cautiously without any mention of the person. He who dares to reveal a sin confided to him in the tribunal of penance, we decree that he be not only deposed from the sacerdotal office but also relegated to a monastery of strict observance to do penance for the remainder of his life (Lateran IV 1215, Canon 21).

This seal of the confessional continues through all church history, and it is still part of today's church law. Most other churches have similar regulations. These strict prescriptions show a high regard for the protection of privacy of the church members.

2.3.5.4 The mark of the beast

The last book of the Bible, the Revelation, describes in chapter 13 two beasts, one ascending from the sea (Rev 13:1) and one ascending from the earth (Rev 13:11). The beasts are symbols. The whole description makes it clear that the beasts are human rulers but with supernatural abilities. The first beast received his power from the dragon (Rev 13:2) and the second beast had the voice of the dragon (Rev 13:11). The dragon is the devil or Satan (Rev 12:9). Both beasts oppose God and Christ. They use powerful means to oppress all people. One of these means is the *mark of the beast*, a sign that everyone had to have on the right hand or on the forehead (Rev 13:16). But everyone "who worships the beast and his statue or who accepts his mark on the forehead or on the hand must drink the wine of God's anger." (Rev 14:9-10).

There are many internet sites from various Christian groups as well as secular sources that in a similar way identify RFID with the mark of the beast as mentioned in Rev 13:29[29]. In addition, much RFID literature alludes to the mark of the beast. It seems appropriate, therefore, to discuss this issue as a sort of amendment to the previous comments on New Testament teachings. There are some writers who link RFID to the marks of the beast. They do not argue that RFID *is* indeed the mark of the beast but rather that others identify RFID with the

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[29]   Search in Google for "RFID" and "mark of the beast" gave more then 1,200,000 results in November 2011. See for example: These Last Days Ministries 2011, Altered Dimensions 2005, Agape24 2009, GloriaTV 2011.

mark of the beast. For instance, de Jager (2006:446) suggests that "[t]here is a legitimate segment of the consumer base that believes in the mark of the beast" or that "many Christian sects have already identified RFID as the 'mark of the beast' in the Book of Revelation" (Perrin 2006:67). Even Albrecht and McIntyre, despite their critical attitude against RFID, do not believe that current RFID technology is the mark of the beast (Albrecht & McIntyre 2006:XII). To evaluate this issue an exegesis of Rev 13:16-17 should be offered. But we have to admit that there can not be a ultimate answer, as long as this prophecy is not fulfilled.

The Greek word used for mark is χαραγμα (*charagma*). It is a sign or an emblem used for indicating animals or peoples, or the imprint of a coin.

> The mark must be some sort of branding similar to that given soldiers, slaves, and temple devotees in John's day. In Asia Minor, devotees of pagan religions delighted in the display of such a tattoo as an emblem of ownership by a certain god. (…) *Charagma* ('Mark') was a term for the images or names of emperors on Roman coins, so it fittingly could apply to the beast's emblem put on people (Thomas 1995:181).

Thompson gives the very same explanation, and furthermore contrasts it to the seal of God, "A *charagma* is an imprint such as a serpent's mark, a brand on a camel, or an impress on a coin. It is the counterpart to the 'seal' of God (7:3, 9:4, cf. 14:1, 22:4, Ezek 9:4)" (Thompson 1998:141f). Both Thomas and Thompson apply the example of branding Jews in Egypt during the reign of Ptolemy IV as reported in 3Macc, "because of a confusion between Judaism and the Dionysiac religion, Jews were branded, by decree of Ptolemy IV, 'on their bodies by fire with the ivy-leaf symbol of Dionysus' (3Macc 2:29)" (Thomas 1995:181). Thompson (1998:141) goes a step further and interprets this sign as a religious habit, "This meaning resembles the long-time practice of carrying signs to advertise religious loyalties (cf. Isa 44:5) and follows the habit of branding slaves with the name or special mark of their owners (cf. Gal 6:17)." This religious use of signs also comprises the placement on the hand (Isa 44:5) or on the forehead (Ex 28:36f) (Riemer 1998:128).

All these interpretations suppose a literal understanding of the mark. But we have to consider also that its meaning may be figurative. "The details of John's vision are symbolic. Thus, the 'mark' on the right hand or the forehead (13:16) is

meant figuratively. Those who conform to the demands of the state are given means to identify themselves, so that they can claim the benefits due to them" (Metzger 1993:76). The complexity of our modern economic world comprises a host of procedures that need access codes, passwords, secret keys, or even RFID transponders to get certain things going. For example, Füssel (1986:51) mentions a bank account as a modern Mark of the beast: "The participant of economic life gets a licence to partake in that life and therewith becomes a number. This number brands him with a sign as great land owners do with their cattle. Or translated in a more up to date manner, you need a bank account number in order to participate in financial transactions" (my translation). This cautious interpretation of the mark of the beast does not justify identification with RFID. Even the opponents of RFID technology are careful with their interpretations. We cannot exclude the possibility that RFID will play a certain role in a future system of economic repression. But it is far fetched to dismiss the application of RFID now because of mark of the beast described in Rev 13.

2.3.6 General remarks on the Biblical teaching

There is no comprehensive teaching on privacy in the Bible but even so some conclusions can be drawn. God's extraordinary supremacy above human beings allows for no hiding of any human sphere before God's eyes, like a new born baby having no privacy in the eyes of its parents. There is no misuse by God of this access to the privacy of a human, and believers feel secure with this situation (see for example Ps 139). In certain cases God reveals secrets to His servants, for example in order to reveal sin and to deal with that sin.

Inter-human relationships should be characterised by love and mutual respect. Even different positions or offices do not allow a discretionary violation of a subordinate's privacy (see the next section). The only exceptions in inter-human relationships are the above mentioned cases, where God reveals something to a spiritual leader. Marital and family relations are also exceptional cases with the private spheres of few persons linked together more or less closely, but still separated from the outside world.

2.4 Privacy in the theological context

In this chapter the issue of privacy and its relation to RFID have been discussed. The various definitions and aspects of the sociological issue of privacy are examined. Beate Rössler's definition of local, informational and decisional privacy is obviously the most fundamental and most common description of facets of privacy. These aspects are helpful to study the then discussed aspects of privacy that are found in Hebrew and Christian thought, especially in Biblical commandments and narratives. It became obvious that privacy is respected to certain limits within Hebrew and Christian contexts. Especially human dignity, derived from the thought that human beings are created in the image of God, is an important justification for respecting human privacy. This has characterised Christian thought also in later times up to today.

3   Privacy versus power

Protection of privacy on one side and the execution of power on the other side can be seen as complementary opposites. A consideration and understanding of both sides can help to comprehend privacy and its relation to power more precisely. There are two different aspects of power regarding RFID. First, it is a new technology providing new possibilities. Second, its application may increase governmental power. Despite this difference the combination of both leads to a new critical situation with which we have to deal.

3.1   Power over nature

God gave human beings power over nature when He said, "Fill the earth and govern it. Reign over the fish in the sea, the birds in the sky, and all the animals that scurry along the ground." (Gen 1:28). Romano Guardini sees power (*Macht*) as "specifically human phenomenon", and he defines it as the "ability to move reality" (Guardini 1961:2f)[30]. Energy itself is no power but becomes power when it is used for human purposes. "Energy becomes power only when some consciousness recognizes it, some will capable of decision directs it towards specific goals" (Guardini 1961:1). Science explores nature and gains knowledge. This knowledge is applied in technologies developed by human beings. Technology increases human power over nature, but also over other humans as well, when it is used to gain governmental power (see section 3.3). The tremendous technological development of our time aggravates the situation. As long ago as 1938 Russell (2007:19) asserted that "mechanical power is more characteristic of our age than of any previous time". This is even truer today, when information and communication technology have changed our daily life totally.

3.2   Governmental power

Max Weber defines power as "the probability that one actor within a social relationship will be in a position to carry out his own will despite resistance,

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[30]   Original German text in Guardini 1989:102.

regardless of the basis on which this probability rests" (Weber 1978:53, cf. Weber 2005:38[31]). His definition applies to governmental power, a leader governing over citizens. Privacy is part of such a leader/subordinate relation. The tie, or better, the antagonism of power and privacy is found in inter-human relationships, in hierarchical constellations, where on one side a leader has power over a group of people, which on the other side strive to hide their private sphere from the access of the ruler. This does not concern only governments but all kinds of organisations in society, like companies, associations, churches, and even families. We have already seen the misuse of power in the ancient Hebrew society in the case of David and Bathsheba, and that of King Ahab and Naboth's vineyard. Then the New Testament comments on the use and misuse of power, for example, when Diotrephes within the church rejects the Apostle John and his friends (3Jn 9), or the beast suppresses noncompliant citizens in Rev 13. How can power be described and characterised, and how can the constraint of privacy by power be delineated accordingly?

Bertrand Russell states in his book *Power,* "Of the infinite desires of man, the chief are the desires for power and glory" (Russell 2007:3). He claims that there are several areas where power finds its playground. "Like energy, power has many forms, such as wealth, armament, civil authority, influence on opinion" (Russell 2007:4). To limit power to only one of these aspects fails to describe power exhaustively. The orthodox economists and also Karl Marx placed emphasis on economic self-interest as a fundamental motive of power. But military domination, governmental power, propaganda and public honour all relevant aims for persons in power as well. Russell works out in detail these forms of power. Persons in powerful positions tend to increase their power. Means are, therefore, needed to keep their power in check. Russell lists several ways of how to accomplish this. "Montesquieu's advocacy of the separation of legislative, executive, and judiciary, the traditional English belief in checks and balances, Bentham's political doctrines and the whole of nineteenth-Century liberalism,

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[31]   Original German text: "*Macht* bedeutet jede Chance, innerhalb einer sozialen Beziehung den eigenen Willen auch gegen Widerstreben durchzusetzen, gleichviel worauf diese Chance beruht." (*Wirtschaft und Gesellschaft* chap. 1, §16).

were designed to prevent the arbitrary exercise of power" (Russell 2007:231). But he admits that "such methods have come to be considered incompatible with efficiency."

Even in today's democracies there is always a tendency to increase governmental power. For example intervention in economic affairs is a common concern:

> But similar dilemmas follow the extension of state activity in all fields. We tolerate such extensions of state power only where they can be justified in the interests of the 'common good' *and* with the provision that the exercise of this power must be subjected to appropriate safeguards, which generally operate through the mechanism of public accountability (Mellors 1978:104).

This statement still leaves unanswered the question of how the "interests of the 'common good'" are to be determined, and how "appropriate safeguards" are to be designed.

When we believe that all power is derived from God's power, God's will and His commandments also provide the restrictions to be placed on power. A ruler being aware of God's supremacy has to recognise divine interference. He/she is accountable to God for what he/she is doing. God has all power, "for His is the kingdom and the power and the glory" (Mat 6:13). "He removes kings and sets up other kings" (Dan 2:21), says Daniel to the Babylonian king Nebuchadnezzar. The Apostle Paul states in his letter to the Christians in Rome, the capital of the Roman Empire,

> all authority comes from God, and those in positions of authority have been placed there by God. So anyone who rebels against authority is rebelling against what God has instituted, and they will be punished. For the authorities do not strike fear in people who are doing right, but in those who are doing wrong. Would you like to live without fear of the authorities? Do what is right, and they will honour you. The authorities are God's servants, sent for your good. But if you are doing wrong, of course you should be afraid, for they have the power to punish you. They are God's servants, sent for the very purpose of punishing those who do what is wrong. So you must submit to them, not only to avoid punishment, but also to keep a clear conscience. … give respect and honour to those who are in authority (Rom 13:1-7).

This is remarkable, because Paul wrote this letter in 57 or 58 CE, at the time when Nero was the Caesar ruling from 54 to 68 CE. This shows a notable appreciation

of governmental power, even when the leaders are not aware of their dependence on God's benevolence.

Persons in power always have the temptation of using their position for their own purpose. They increase their power, and owing to their position cannot be hindered in doing so. But that is destructive and not God's intention. "Power is not a value in itself, and may not be gained or used for its own purpose or for the purpose of its owners, but for external values only"[32] (Kiechle 2006:71, my translation). But how can power be kept in check from a Christian perspective? Guardini discusses *humility* as a suitable means for exercising power properly. "True Christian humility is a virtue of strength, not of weakness." (Guardini 1961:24)[33]. God is the first example of true humility. Jesus Christ humbled Himself, when "He took the humble position of a slave, and was born as human being" (Phil 2:6). Guardini concludes, "Jesus' whole existence is a translation of power into humility." (Guardini 1961:27). Every human being, including leaders, has to understand his/her call from the sovereign Lord of the world and respond to it. God is the one "who gave the world into his keeping, and who will demand an account of what he has done with it." (Guardini 1961:93)[34]. "[H]e must regain his right relation to the truth of things, to the demands of his own deepest self, and finally to God. Otherwise he becomes the victim of his own power" (Guardini 1961:94). The leader has to put into practice Christian virtues, or his own power will dominate and mislead him.

3.3   The influence of technology on governmental power

There is a critical symbiosis between power over nature and power over people. Increasing scientific and technical knowledge combined with governmental power may lead to a totalitarian reign that can be combated only with difficulty. The rapid technological development in the last century and this century have led to a new situation, different from all previous times. As quoted above, Russell

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[32]   Original German text: "Macht ist kein Eigenwert und darf nicht um ihrer selbst willen oder für die Aufwertung ihres Trägers angestrebt oder gebraucht werden, sondern nur für außerhalb ihrer liegende Werte."
[33]   Original German text in Guardini 1989:120.
[34]   Original German text in Guardini 1989:177.

(2007:19) stated, "mechanical power is more characteristic of our age than of any previous time". He explained, "[i]t would now be feasible for a technically trained oligarchy, by controlling aeroplanes, navies, power stations, motor transport, and so on, to establish a dictatorship demanding almost no conciliation of subjects." (Russell 2007:19). Russell goes so far (and it may be too far) as even demonising such technical knowledge.

> In former days, men sold themselves to the Devil to acquire magical power. Nowadays they acquire these powers from science, and find themselves compelled to become devils (Russell 2007:22).

After the experience of the Third Reich in Germany and World War II, George Orwell in his novel *1984* published in 1949, describes a terrible future world, where a tyrant, *Big Brother*, has a comprehensive system of surveillance at his disposal. Orwell's dystopia describes a fantastic system of technology that eradicates privacy totally. When *Winston*, the main character, remembered his mother's death, he thinks:

> Tragedy, he perceived, belonged to the ancient time, to a time when there were still privacy, love, and friendship, and when the members of a family stood by one another without needing to know the reason (Orwell 1949:30).

The loss of privacy had led to a loss of family ties simply to secure Big Brother's power. It is obvious that the experience of the Third Reich is the background for this novel. Big Brother reminds one of Adolf Hitler, whose first name, *Adolf*, means brother from Greek *adolphos* (αδολφοσ) = brother. The fear is that a tyranny like Hitler's combined with modern or future surveillance technology will facilitate an unbreakable system, where opponents have no more chance to fight the system. Orwell's novel is a warning that had its influence on British society at least. "I suspect that if we had no fears about '1984' we should now be less concerned about governmental encroachments on our privacy than we are" (Velecky 1978:25). But on the other hand, new technologies providing possibilities which have not been available ever before often result in enthusiasm. Technically-minded people tend to ignore the dangers described by Orwell. Hannah Arendt categorised them as *homo faber*. The Dutch Christian philosopher Egbert Schuurman (2010:108) states, "Unfortunately, people, often mesmerized

by technology's phenomenal growth, fail to foresee potential disastrous consequences". The German philosopher Jürgen Habermas speaks of an "ideology of technology" (quoted in Schuurman 2010:114). Schuurman writes critically that the ethical aspects of technology are often not appreciated sufficiently, or that proposed ethical solutions are often limited to technical procedures only.

> Current discussions in the ethics of technology are, generally speaking, limited to calculating precautions for behavior with an eye to reducing risk. I have sometimes called this "technical ethics" […] Attaining power over reality is the implicit priority of this ethical stance. It follows closely on the heels of technological innovation (Schuurman 2010:115f).

Most publications dealing with RFID and privacy generally affirm Schuurman's statement. They propose only purely technical solutions like encryption or password protection. The *real* ethical questions are not addressed.

The answer Schuurman provides starts with the Christian double commandment of love. "[T]he command to love God and one's neighbour is at the core of all of the directives, commandments, values, and norms in the Christian religion. […] This twofold love must be the starting point for an ethics of technology" (Schuurman 2010:120). He sees our responsibility as workers in the *Kingdom of God*, and concludes, "To orientate oneself to that Kingdom differs enormously from the materialistic and hedonistic attitude of our age" (Schuurman 2010:121). This orientation results in the guidelines for our behaviour within our environment and our society. Schuurman ends up with an *ethics of responsibility*, as discussed before. The Catholic Christian philosopher Stefan Kiechle comes to the same conclusions as Schuurman, when he concludes how power has to be performed – the *kingdom of God*. "It is that which Jesus calls 'Kingdom of God', peace, justice, the unity of human beings, comfort, care for poor and weak, or again, in general love" [35] (Kiechle 2006:71, my translation).

A responsible use of RFID in the public area does not mean that every use of RFID should be forbidden. Using RFID should serve people and the society. From a Christian point of view it is not acceptable to use RFID to discriminate,

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[35] Original German text: "Konkreter geht es um das, was Jesus 'Reich Gottes' nennt: Frieden, Gerechtigkeit, Einheit der Menschen, Trost, Vergebung, Zuwendung zu Armen und Schwachen; oder nochmals allgemein: Liebe."

oppress, or secretly supervise people without their consent. People in power have to consider their responsibility for all citizens and have to avoid such discriminating, suppressing, and supervisory use that surpasses the *normal* administering use of RFID.

3.4   Privacy as human right

The first question is what kind of right is the *right of privacy*? Is it a human right? If yes, how does privacy fit into the concept of human rights? And what is the rationale for such a right and, indeed, for human rights in general? All this will be investigated in the following section. For our discussion any link to Judeo-Christian principles will be of interest. Today human rights are often seen as the result of the *Enlightenment* (Griffin 2008:9, 13), but there are Christian roots as well.

3.4.1   Rationale for a right of privacy

Today the most famous record of human rights is the *Universal Declaration of Human Rights* as proclaimed by the United Nations in 1948. The term *privacy* is mentioned in article 12 combined with local privacy ("family, home") and informational privacy ("correspondence").

> No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks (United Nations 1948, art. 12).

Decisional privacy and autonomy are granted as well by several other articles, for example "freedom of movement and residence" (art. 13), "right to a nationality" (art. 15), "right to marry" (art. 16), "right to property" (art. 17), and others.

The European human rights declaration of 1950 (Council of Europe 1950) has similar formulations. Article 8 mentions "respect for private life" explicitly.

> Article 8 – Right to respect for private and family life
>
> 1. Everyone has the right to respect for his private and family life, his home and his correspondence.
>
> 2. There shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is

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> necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others (Council of Europe 1950, art. 8).

Other paragraphs grant freedom of thought, conscience and religion (art. 9), freedom of expression (art. 10), freedom of assembly and association (art. 11), and the right to marry (art. 12.). Here privacy is also granted as human right in a similar way as it is in the UN declaration. Many national constitutions include articles protecting privacy. Griffin (2008:316) lists Argentina, Cuba, Nigeria, Norway, Poland, Portugal, USSR, and Yugoslavia, all as of 1965. But we have to ask the question of how thinkers justify privacy as human right.

When we go back in history, the United States *Bill of Rights,* introduced to the Congress in 1789 and enacted in 1791, does not mention privacy (United States 1791a). But in Amendment IV it says, "The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated…" Amendment V further states that no person shall "be deprived of life, liberty, or property, without due process of law". With these two amendments the right to privacy of information and of space and life is granted by the Bill of Rights.

Rössler sees the "theory of privacy" as part of the political philosophical framework of liberalism, because "protection of individual freedom and the autonomy of persons in the face of inadmissible interference or regulations on the part of the state" are essential and constitutive for liberalism (Rössler 2005:10, cf. Rössler 2001:27). Liberal theory embraces four pillars, liberty, justice, neutrality of the state, and democracy. The issue of privacy is, first of all involved in the first and second pillars, liberty and justice. But governmental structures and control are still of importance as we have seen in section 3.2.

Griffin bases the right to privacy on the right to *personhood*. "Human rights can […] be seen as protection of our human standing or, as I shall put it, our personhood" (Griffin 2008:33). And he lists "three values of personhood: autonomy, liberty, and minimum provision" (Griffin 2008:51). Privacy is a necessary condition for "normative agency", or what we call *human dignity*

(Griffin 2008:226, 233). That this rationale is not without question, or at least difficult to substantiate, is discussed by Griffin, when he states that privacy is an "empirical necessity", and not a "conceptual necessity" (Griffin 2008:226).

> There are a few people courageous enough or self-confident enough, or just exhibitionist enough, to thrive in full public gaze. It is just that the rest of us cannot. But as long as these familiar weaknesses are characteristic of humanity widely, they are enough to provide a ground for a human right (Griffin 2008:226).

Griffin then switches to a more practical discussion of court cases in the United States, starting with the famous *Harvard Law Review* article of Brandeis and Warren in 1890. Privacy finally leads back to freedom or liberty and in the end to Mill's principle of liberty, "freedom of action unless harm to others" (Griffin 2008:229, cf. Mill 2006 chap. 1). Privacy has to be granted unless others are harmed, or unless there is an overriding public interest.

When Lubor C. Velecky describes his "concept of privacy", he also goes into the issue of privacy as a human right. He sees the "right to privacy" based on laws within a legal system as the "effective protection in society" and morality (Velecky 1978:22). As does Griffin, he appeals to personhood, or, as he puts it, the "concept of human person". He derives his concept from Thomas Aquinas. Persons "can live in a realm of values", and "only persons live moral lives and are subjects of rights and duties" (Velecky 1978:27). Then he links *person* to *dignity*. The concept of a person is "that of a moral agent and that being a moral agent is a spiritual rather than a physical characteristic" (Velecky 1978:28). Based on Aquinas' anthropology, Velecky derives a right to privacy, and concludes, "[a] person's human right to privacy is a right to be the captain of his soul without any evil-minded interference by others" (Velecky 1978:31). Here are human rights, the right to privacy included, derived from medieval Christian thought.

3.4.2 Christian foundations of human rights

Obviously there are two approaches for the rationale for human rights. One is the "incomplete" "Enlightenment project on human rights" (Griffin 2008:9), and the other the substantiation of human rights in Judeo-Christian thought. The Enlightenment was, pre-eminently, the age of reason. "Descartes' *Cogito, ergo*

sum[36] came to mean that the human mind was viewed as the indubitable point of departure for all knowing" (Bosch 2009:264). New scientific approaches, especially in the natural sciences, explained natural phenomena in a purely rational way, without any supernatural explanation. Even a supernatural creator was neglected. The origin of life and the origin of human beings were no longer seen as depending on a mystical creation. But when human beings are seen as descending from lower level species, an anthropology supposing created human beings is no longer acceptable. Here a concept of human dignity can no longer be used adequately as the only rationale for human rights. Russell depicts this dilemma clearly when he discusses the philosophical consequences of the theory of evolution. He compares men with apes and even facetiously with oysters:

> There is a further consequence of the theory of evolution, which is independent of the particular mechanism suggested by Darwin. If men and animals have a common ancestry, and if men developed by such slow stages that there were creatures which we should not know whether to classify as human or not, the question arises: at what stage in evolution did men, or their semi-human ancestors, begin to be all equal? […] A resolute egalitarian who answers these questions in the affirmative will find himself forced to regard apes as the equals of human beings. And why stop with apes? I do not see how he is to resist an argument in favour of Votes for Oysters (Russell 2004:658, cf. Johnson 2008:37f).

When human beings cannot be clearly separated from any other human-like animal or intermediate form between apes and humans, how can a certain dignity be imputed to human beings and not to close relatives of these human beings? In Jewish and Christian thinking all human beings originate in one created couple, Adam and Eve. All human beings have the same human dignity as they are created in the image of God. But when humans are seen as higher level animals, this, on the one hand, may lead to the understanding that human beings and (other) animals are on the same level, and on the other hand, that some human beings are more developed then other human beings. There is high risk that equality and a common dignity of the human race is neglected.

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[36] "I think, therefore I am."

For Russell as for many others the existence of "human life was a cosmic accident with no particular significance or value" (Johnson 2008:39). *If human dignity cannot be stated, any declaration of human rights loses its foundation.* Thomas K. Johnson as a Christian thinker states that "God-given dignity and responsibility is the reason why humans have rights that are different from the rights of any other entity in the universe" (Johnson 2008:42). Dignity distinguishes human beings from other species. This is based on God's will that different creatures, here human beings on one side and animals on the other side, have different tasks within creation. The Christian philosopher Francis Schaeffer describes this circumstance as fundamental to human rights.

> One of the distinctions of the Judeo-Christian God is that not all things are the same to Him. That at first may sound rather trivial, but in reality it is one of the most profound things one can say about the Judeo-Christian God. He exists, He has a character, and not all things are the same to Him. Some things conform to His character, and some are opposed to His character (Schaeffer 1983:3).

The "Judeo-Christian God" entitling human beings with a specific dignity entitles these human beings to human rights as well.

But how can the emergence of human rights be described as result of Enlightenment thinking? An important result of the French Revolution was the proclamation of inalienable rights for humans and citizens in the *Declaration of the Rights of Man and of the Citizen* (French: *Déclaration des droits de l'Homme et du Citoyen*, France 1789). This declaration is usually understood to be the result of Enlightenment thinking. Any reference to the Christian religion was avoided. God is not mentioned, beside a reference to "the auspices of the Supreme Being". But, despite the neglect of Christian thought, human rights as equality, brotherhood, and justice are still claimed for "man" and "the citizen". The declaration speaks of "the general good" (art. 1), "the natural and imprescriptible rights of man" (art. 2), and "the natural rights of each man" (art. 4). Liberty is defined in article 4, as Mill and Griffin define it. "Liberty consists in the freedom to do everything which injures no one else". It should be noted that the French Revolution led to terrible persecutions of Christians and the execution of thousands of Catholic priests (Lewis 1999:96). This is a remarkable example of

neglecting the human right of religious freedom and makes this declaration unsuitable as good example of favouring human rights.

Furthermore the French declaration cannot claim precedence regarding human rights. The American Revolution in the last half of the 18th century resulted in the independence of 13 colonies from the British Empire. The colonies formed new states with their own constitutions. The *Virginia Declaration of Rights* was enacted in 1776, thirteen years ahead of the French declaration. The Virginia declaration states, "That all men are by nature equally free and independent and have certain inherent rights" (art. 1). But, contrary to the French declaration, it speaks of "the duty which we owe to our Creator" and "that it is the mutual duty of all to practice Christian forbearance, love, and charity towards each other" (art. 16). The Virginia declaration influenced the later, but still dated 1776, *United States Declaration of Independence* that was endorsed by 13 states. The second sentence of this declaration gives a clear link from human rights to "their Creator".

> We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness (United States 1776).

This declaration concludes from the Creator's way of creating, namely "that all [human beings] are created equal", that all human beings have "certain unalienable Rights". In contrast, the French declaration takes "natural, unalienable, and sacred rights of man" (French 1789) as their starting point without any reference to any source or origin of those rights. The introductory text mentions that "the National Assembly recognizes and proclaims, in the presence and under the auspices of the Supreme Being"[37] the following articles. The reference to a "Supreme Being" shall underline the responsibility of the National Assembly representing the people of France as stated in the first sentence of the declaration. But in no way it is linked to the declared rights and a rationale thereof. It lacks a rationale for the claimed human rights (Schirrmacher 2002b:16). Schirrmacher states, "of course, the French declaration contains substantially the

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[37] French original text: "en présence de l'Etre supreme"

Christian view on the Creator based human rights, but the reason for them had been cut off"[38] (Schirrmacher 2002b:16, my translation). The authors of the French declaration could not deny their origin and embeddedness in Western culture that has been shaped significantly by Christianity. Of course, Christianity had substantial influences on other cultures as well, for example in Asia or North Africa, but the remarkable point here is that the French could not find another reliable justification for human rights. It is obviously not possible to start from the scratch and ignore centuries of philosophical and cultural development accruing from both ancient Greek/Roman roots and Hebrew/Christian thought. As we have already seen creation, *imago dei*, human dignity, and the Ten Commandments, create a sound foundation for human rights.

As showed above, in the quotation from Russell, the theory of evolution may weaken the definition of human beings. The differentiation between humans and animals may become fuzzy and indefinite. But there is also the contrary danger that human beings are limited to a certain group. At the time of the American Revolution and the French Revolution, women are not included or are at least ignored. For example voting rights for women were claimed and slowly won only by the 20th century Suffragettes. Another distinction is still there, citizens of a state are privileged among all human beings. From article 6 to the end, the French declaration speaks of *citizen*. In article 12 the words "man" and "Citizen" are used, i.e. there is a clear difference between these two groups. A similar restriction existed in the North American British colony before the independence of the North American states. *Englishmen* had the same rights in North America as well as in the United Kingdom. From this background it is understandable that the independent states claim the rights for all *men*. That is, at least, more comprehensive than Englishmen, but still excludes women.

In the Roman Empire a similar gap between *Roman citizens* and other human beings existed. In order to protect Roman citizens, a special right was established. It is mentioned in Acts 16:37, 22:25-29 and 23:27. The right of Roman citizenship included protection against torture and punishment without

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[38] German original text: "Natürlich enthält die französische Erklärung inhaltlich die christlichen, auf den Schöpfer gegründeten Menschenrechte, aber die Begründung für sie wurde abgeschnitten."

valid judgement. On the one side, it was good the Roman Empire protected its citizens in that way, but, on the other side, this basic right should have been granted to all human beings. The Apostle Paul and Silas were Roman citizens (Acts 16:37). Paul had been a Roman "citizen by birth", others bought that right for a reasonable amount of money (Acts 22:28). When Paul and Silas appealed to their right as citizens it had nothing to do with Hebrew or Christian anthropology.

In the Middle Ages a similar question arouse. When the Spanish conquistadors occupied foreign countries and had to deal with peoples in Middle and South America they considered them to be "uncivilised" people. In 1537 Pope Paul III stated in his bull *Sublimus Dei* "that the Indians are *truly men* and they are not only capable of understanding the Catholic Faith but, according to our information, they desire exceedingly to receive it" (Paul III 1537, my emphasis). Then he explains their rights in particular:

> the said Indians and all other people who may later be discovered by Christians, are by no means to be deprived of their liberty or the possession of their property, even though they be outside the faith of Jesus Christ; and that they may and should, freely and legitimately, enjoy their liberty and the possession of their property; nor should they be in any way enslaved; should the contrary happen, it shall be null and have no effect (Paul III 1537).

The Spanish scholastics Bartolomé de las Casas (1484 – 1566), Francisco de Vitoria (1492 – 1546), and Francisco Suárez (1548 – 1617) supported this view and became pioneers of modern international law (Huber 1999:229, Häring 1989:423, Bosch 2009:236). Griffin mentions Suárez as "the most influential writer in the Thomist tradition in the seventeenth century" (Griffin 2008:10). Even when the governmental power hardly followed their advice, the equality of all human beings and equal rights for them, derived from Christian thought, provide the basic concept of their teaching.

Thomas Aquinas never mentions an expression that could be translated as "human rights", but human rights can be understood as part of *natural law* of which Aquinas speaks. The "participation of the eternal law in the rational creature is called natural law" (*Summa Theologica* 1a 2ae Q. 91, cf. Griffin 2008:277f). *Natural law* consists of principles, which enable people to distinguish good from evil, and which are derived from *eternal law* by "natural reason".

Aquinas explains, "… the light of natural reason, whereby we discern what is good and what is evil, which is the function of the natural law is nothing else than an imprint on us of the Divine light. It is therefore evident that the natural law is nothing else than the rational creature's participation of the eternal law" (*Summa Theologica* 1a 2ae Q. 91). Even when Aquinas does not speak of human rights, it is clear that these rights, as we understand them today, are part of *natural law* that is itself derived from the divine *eternal law*. It is, therefore, evident that the scholastics argue for equal basic rights for all human beings.

To sum up this section, human rights including the right of privacy are applicable to all human beings regardless of their "race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth, or other status" (*Universal Declaration of Human Rights,* art. 2, United Nations 1948). People have human rights because they are human. Human rights are not given by governments, states, societies, or political parties. They are given by God to His creatures (Schirrmacher 2002b:19). John Marwick Montgomery, Professor of Law and Humanities at Luton University, England, published an impressive treatise on this subject, which comes to similar conclusions.

> Were there a transcendent Source of human rights – a God who both declared to what rights human beings are entitled *qua* human beings, and who created human beings in His own image so that these rights are entitled by God's very nature – *then*, and only then, could there be a satisfactory interest-oriented definition of human rights (Montgomery 1995:78).

Montgomery suggests that "human rights are neither entities, nor mere prescriptions, nor wants, needs, choices, nor claims" (Montgomery 1995:63). Human rights are *entitlements*, and the source of such a title requires an appeal to someone who entitles.

Constitutions of totalitarian states often describe human rights and corresponding obligations as given by the state. But that is wrong, and it appropriates too much power for the state. The state places itself in God's place. Human rights are inalienable, and "the state [is] not the final authority" (Schaeffer 1983:7) but has a duty to protect inalienable human rights. This will be discussed in the next section in detail.

3.5　The privacy/power dichotomy

This chapter described another sociological approach. Privacy is often in conflict with governmental power. Such power and its limitations are an ethical issue that helps us to understand how we should deal with privacy of individuals as members of a society.

This tension between power and privacy is then reflected on Christian understanding of power and on the substantiating biblical statements and narratives. These teachings show that governmental power should be limited in order to protect the rights, including the right to privacy, of the subordinates. This right to privacy is part of the concept of human rights. It became obvious that Jewish and Christian understanding is a strong foundation for the formulation and application of human rights. It is difficult, or even impossible, to find a reliable rationale for human rights. Especially Enlightenment driven philosophy is still stuck in an incomplete human rights project.

4 Overview of the present political and sociological situation

The RFID *hype* encouraged discussions and actions on all societal and political levels. Up until now, the different activities and their various approaches towards an acceptable use of RFID technology have taken place in Europe and the United States. It makes sense to assess and to compare the efforts to regulate the use of RFID and to protect privacy in these two parts of the Western world. But, in addition, we need to look at the global situation. One could get the impression that privacy is highly regarded in Western culture in contrast to other non-Western cultures. But that is an open question and needs investigation in order to get a comprehensive picture of the global situation.

4.1 Privacy in the context of cultures worldwide

Privacy is first of all an issue related to individuals. Of course, having privacy or not can be a question only, if an individual is part of a group of other individuals within a society. In the field of cultural anthropology privacy is understood to be valued highly in individualistic cultures but not in collectivistic cultures (Hofstede & Hofstede 2006:142.147, Brey 2009:4). The question arises of whether privacy is a subject of Western individualistic cultures only. Do collectivistic societies have the same, or at least a similar demand for protection of private spheres? In order to assess this question the relation of privacy to the emphasis on individualistic values in different societies and cultures will be discussed in this section.

4.1.1 Privacy in cultural anthropology

When culture-anthropologists assess cultures, they define several aspects, normally dichotomies, which describe the cultural differences most clearly and comprehensively. Ground breaking work had been done by the Dutch sociologist Geert Hofstede. He first published his research results in his book *Culture's Consequences* in 1980 (see 2nd edition Hofstede 2001). He defined the cultural aspects as indexes, power distance index (PDI), uncertainty avoidance index (UAI), individualism index (IDV), masculinity index (MAS), and long time orientation (LTO). Other sociologists apply similar lists of cultural aspects for

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their work (see for example House et al. 2004). For our discussion it is sufficient to discuss only those aspects that are related to privacy.

Hofstede mentions privacy when he discusses the IDV. He distinguishes between individualistic and collectivistic cultures. Privacy can be seen as an aspect of this cultural difference. In a culture with high IDV in the family, "privacy is normal". That is in contrast to a collectivistic culture, where someone is seldom alone (Hofstede 2001:236, Hofstede & Hofstede 2006:115). A comparable dissimilarity can be found in political systems. In countries with a high IDV "[e]veryone has a right to privacy", while in collectivistic political systems with a low IDV "[p]rivate life is invaded by public interests" (Hofstede 2001:251). Hofstede and House come to corresponding conclusions. "[T]here is a strong negative correlation between In-Group Collectivism practices and Hofstede's (1980) measure of individualism" (House et al. 2004:474).

Hofstede rates the importance of individualism in all the countries he investigated and he set up a list with an importance ranking. According to this list, the United States is the most individualistic country, followed by Australia, Great Britain, Netherlands, Canada, and New Zealand. It is obvious that this individualistic culture is related to English speaking Commonwealth countries (Hofstede 2001:215). Most of the European counties follow with a still reasonably high score of IDV. On the more collectivistic side East Asian, African and Latin American countries follow (House et al. 2004:441).

The extremely high IDV of the North American culture can be understood as an outcome of the underlying British culture combined with the special development of the occupation of the North American country. There had been many introverted individuals. Hofstede talks about

> 'inner-directed types,' who are typical for societies in periods of transitional growth, such as the United States in the 18th through 20th centuries. Inner-directed types have no stable traditions to go by; rather, they are guided by a 'psychological gyroscope' … that is set during their early education and keeps them on a steady track in a turbulent environment (Hofstede 2001:210).

This description reminds us of typical Western movies featuring outstanding heroes and always ending with a lone cowboy disappearing in the solitude of the

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prairie. North American individualism had its influence on the human rights declarations discussed earlier in section 3.4. When House discusses the historical developments of individualism and collectivism, he states,

> Across societies, the importance of the freedom of individuals was also reflected in the American Revolution (all humans are created equal, and pursuit of happiness is their fundamental right) and the French Revolution (liberty, equality, fraternity) (House et al. 2004:439).

In summary, the culture of the United States is characterized by a strong individualism. This makes it understandable that the potential infringement of privacy by new technologies is an important issue. This is, however, also true for European countries but to a lesser extent.

On the other side, Asian and African cultures emphasize collectivistic aspects. For example, Chinese society is strongly characterized by collectivism, which accords well with its communist ideology.

> For Mao-Zedong, individualism was evil. In his opinion, individualism and liberalism were manifest in the selfishness and aversion to discipline characteristic of the petty bourgeoisie. The selfish behavior that Mao condemned was not necessarily at the expense of others. It was sufficient to place personal interests above those of the group or simply to devote too much attention to one's own things. Mao's anti-individualist, pro-collectivist ethos is deeply rooted in the Chinese tradition. Collectivism does not mean a negation of the individual's well-being or interest; it is implicitly assumed that maintaining the group's well-being is the best guarantee for the individual (House et al. 2004:211, cf. Ho 1979).

The communistic ideology emphasizes the collectivistic aspects of society. It is, therefore, no surprise that communism was more successful in Asia then in European countries, even though it came from Europe. The individualistic Western cultures always limited the communist influences in their countries.

On the one side, we can expect that in a collectivistic culture privacy is of minor importance; on the other side, it can be expected that the advantages of new technologies that promote the common welfare will be highly appreciated. This may lead to a situation where the application of RFID may be hindered by severe legal restrictions in Western countries, while RFID could be applied without restrictions in Eastern countries leading to economic successes, as foretold by the RFID protagonists.

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4.1.2 Critique on the individualism/collectivism dichotomy

In an article in *The Journal of Social Psychology,* Maxim Voronov and Jefferson A. Singer (2002:461) criticized the "myth of individualism-collectivism". Even though this article is related to more psychological viewpoints, it gives a comprehensive overview on the individualism/collectivism research that took place mainly in the 1990s as a reaction of Hofstede's ground-breaking work in the decades before. According to Hofstede, a high individualism index is correlated to a high appreciation of privacy. But now there are studies that even claim a negative correlation between the individualism index and privacy. A reason for this contradictory opinion to Hofstede's statements is a different understanding of privacy. For example, Bellman et al. in a study regarding informational privacy and the use of new internet features found out that the

> negative association between IND [= individualism index] and privacy concern found in our study [corresponds …] with the majority of cross-cultural research which has generally found that people from high IND cultures are comfortable with higher levels of disclosure of private information (Bellman et al. 2004:321).

For the sake of completeness, it should be mentioned that there are also correlations between privacy concerns and the masculinity and power distance indices. Participants from cultures with a low masculinity index "had higher levels of concern about unauthorized secondary use" and "were more concerned about security of online transactions" i.e. misuse of informational privacy (Bellman et al. 2004:321). Participants from cultures with a low power distance index also had more concerns about their informational privacy. Bellman et al. did not find a significant influence of the uncertainty avoidance index (Bellman et al. 2004:320).

Regarding the individualism/collectivism dichotomy especially scholars of the so-called collectivistic societies like China, Japan, India, and Thailand have tried to prove or disapprove Hofstede's assumptions. For example, the correlation between a high individualism index and the national income could not be sustained. Asia, which is often referred to as a collectivistic continent, showed extraordinary economical growth without changing their culture significantly. "Thus, the relationship between individualism and economic growth appears to be an illusory one" (Voronov & Singer 2002:468). The industrial, technological and

economical developments have changed many Asian societies in a way that can not be explained by the individualism/collectivism dichotomy. Voronov and Singer conclude that:

> [t]he rapid changes experienced by most societies during the past centuries, such as industrialization, increased interactions with other societies, technological advances, and so on, have rendered several of I[ndividualism]-C[ollecivism]'s putative correlates redundant (Voronov & Singer 2002:468).

Another point is the forming of relationships and the trust showed to others. The way of building relations and forming groups seems to be more complex than described by the concepts "individualistic" or "collectivistic". People in collectivistic cultures "have demonstrated a tendency to show little care or consideration for people not belonging to the in-group – little civic-mindedness" (Voronov & Singer 2002:469). People form extended families with stable relationships, "strong closed we-groups" as Hofstede & Hofstede (2006:102) puts it. These relationships are unchanging over long periods of time. For individuals belonging to such a family group there is no need to build new relationships with individuals outside the group. In consequence, there is no necessity for any openness for new relationships. Individualistic cultures are characterised by unstable relationships and small groups or families (Hofstede & Hofstede 2006:102). Consequently there is a greater need to build new relationships when the old relationships are broken or at least weakened; for example, when grown-up children leave the house of their parents. Individualistic societies are therefore characterized by "a high level of general trust" (Voronov & Singer 2002:473) compared to a low level in collectivistic societies, because such trust to foreigners is needed when someone will start a new relationship with a foreign person. This suggests that there is well privacy in collectivistic cultures, but it may be in different forms, for example in relationships or in-groups and not emphasizing the individual as such.

Globalization and the development of the internet are notably shaping collectivistic cultures. Privacy rights and protection have became issues for these societies. The right to privacy is often understood as a human right, part of the human rights that have been established recently as well.

> Only very recently have China, Japan and Thailand introduced comprehensive human rights legislation, which has occurred mainly through Western influence, and there is still considerable tension in these societies, especially in China and Thailand, between values that prioritize the collective and the state and values that prioritize the individual (Brey 2009:6).

There are ongoing discussions about the protection of privacy and the public interests of the state. In China there is no law defining a right to privacy, but the *General Principles of the Civil Law of the People's Republic of China* defines in Article 101 a *right of reputation* that can be interpreted as partly including a right to privacy (Jingchun 2005:657).

> Citizens and legal persons shall enjoy the right of reputation. The personality of citizens shall be protected by law, and the use of insults, libel or other means to damage the reputation of citizens or legal persons shall be prohibited (China 1986: Article 101).

In order to foster a better privacy protection and to prevent misuse Cao Jingchun proposes, in a research paper (LL. M.), "to set up the right to privacy as an independent right and to specially protect such a right" (Jingchun 2005:659). His paper shows that privacy is an issue for legislation in China, but there is still a long way to go. Remarkable is his conclusion that, "Chinese people, like others, need privacy. It is a concept that, though less developed, is not alien to Chinese society and culture" (Jingchun 2005:664). There are also surveys showing that the majority of Chinese people think "that privacy should be respected and protected" (Zureik 2010:204). This contradicts the opinion that privacy issues are relevant in individualistic cultures only (cf. Hofstede & Hofstede 2006:142). The global information interchange via internet encourages a global discussion. Privacy questions discussed in America or Europe will be recognised and may also be discussed in other parts of the world. Furthermore cultures are changing. Individualism may become more important in societies which are often referred to as collectivistic societies.

In other Asian countries there are similar developments to those in China. In Thailand, for example, the culture is collectivistic in the sense that society is organized in households and privacy is applied "primarily to the family space" and is "shared by intimate members of the same household" (Kitiyadisai

2005:18). Mutual behaviour is characterised by respect for one another and not 'losing-face'.

> 'Face' represents one's social and professional position, reputation and self image, so that a loss of face is to be prevented or avoided at all costs (Kitiyadisai 2005:18).

Interference in private affairs may occur, if it is conducted with 'saving-face' motivation. This behaviour is also shaped by Buddhism, as about 95% of the Thai population are Buddhists. This Buddhist influence is described as

> an attitude of having consideration for others and being thoughtful in maintaining a smooth social atmosphere […] kindness, compassion, […] generosity without expecting anything in return […] understanding, sympathy, empathy, and willingness […] to listen, being flexible and forgiving, and accommodating towards one's fellow human beings in time of distress (Kitiyadisai 2005:20).

These attitudes, like kindness, compassion, understanding etc., are presented as Buddhist influences. They come very close to Judeo-Christian values. They are very similar to attitudes claimed by Christians for example as "fruits of the spirit" like "love, joy, peace, patience, kindness, goodness, faithfulness, gentleness, and self-control" (Gal 5:22). These characteristics are summarised as love to the neighbour in Judeo-Christian thinking. They are values based on human dignity and the notion of *imagoDei*. It should be added that there are similar religious influences in other Asian countries as well by Confucianism and Taoism, and even Maoism.

> In part through Buddhism, but also through the influence of other systems of belief such as Confucianism, Taoism and Maoism, societies like those of China and Thailand have developed a value system in which the rights or interests of the individual are subordinate to those of the collective and the state. (Brey 2009:7).

After the Cold War, Western influences and technological progress led to discussions about the protection of privacy in Thailand. Internet, e-commerce, mobile phones, and smart ID cards urged the protection of private data:

> [P]eople have realized that information technology is like a double-edged sword: whatever its benefits, obviously IT can also be dangerous in the hands of corrupt officials and computer hackers (Kitiyadisai 2005:22).

In Thai legislation the right to privacy is based on the *National Constitution* of 1997 and the subordinate *Official Information Act* of the same year. The Constitution is reckoned as "the first Constitution in Thailand that guarantees fundamental rights and liberties, human dignity and human rights" (Kitiyadisai 2005:21). The Official Information Act grants the right to privacy in Article 34, "A person's family, rights, dignity, reputation and the right of privacy shall be protected" (Kitiyadisai 2005:21). Here traditional Buddhist and modern Western influences come together in order to meet the challenges of new technologies. RFID itself is directly involved in the smart ID card project that was started by the Cabinet in 2002. It can be supposed that other Asian nations and other so-called collectivistic societies face similar challenges and will work on suitable solutions. The concepts developed in North America and Western Europe provides guidelines for these solutions (Kitiyadisai 2005:22).

4.1.3 The privacy/common good balance

There are not only typical individualistic features in so-called collectivistic cultures, but there are also collectivistic aspects within so-called individualistic cultures. There is an aspect in individualistic societies that limits the strong emphasis on privacy. On the one side, it is not acceptable that human rights, including the right of privacy, are neglected in collectivistic cultures; on the other side, it is not acceptable that privacy is overemphasised in individualistic cultures at the expense of the common welfare. The Jewish American sociologist Amitai Etzioni (*1929 in Cologne as Werner Falk) stated in his book *The Limits of Privacy* that the protection of privacy has to be in balance with public health and security. He criticises "the rise of radical individualism between 1960 and the 1990s" leading to the formulation of privacy "as an unbounded good, privileging it over the common good" (Etzioni 1999:188), and "[a]s the right to privacy is viewed as an inalienable right, it does not yield to the common good" (Etzioni 1999:190). Etzioni argues that limits on the right to privacy have to consider, for instance, respect for community values and governmental efforts to secure the community.

In the United States the right to privacy is primarily based on the Fourth Amendment to the United States Constitution. The text of this amendment is as follows:

> The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized (United States 1791b).

Etzioni sees in this amendment a balanced view on privacy, as it allows "a whole category of legitimate, 'reasonable' searches" (Etzioni 1999:203). Even when American culture is described as essentially individualistic, there are community elements as well. Etzioni notes a "profound tension between two core American visions: the virtue and public-spiritedness fostered by republicanism, and the liberty and individualism championed by classical liberalism" (Etzioni 1999:207). He discusses several cases but relative to our issue of RFID the retail application seems to be the most relevant one. Here he notes that "[b]uying items in a supermarket is a matter of personal choice, not a state-controlled action. It is a private act, but one that cannot be said to implicate privacy because its commission is quite visible to the public" (Etzioni 1999:211). So shopping has both sides, a private act claiming decisional privacy, but also a public side as it is taking place publicly. But there is no need for interference by any governmental power, as the common good is in no way endangered.

We have to consider that Etzioni's book was published before the September 11 attacks. After those terrible events, the issue of balancing between privacy and public interests became even more important. To maintain public security will require limits to individual liberties, and that is true for all societies, regardless of their cultural disposition. The emphasis on the right to privacy may differ in the various cultures, but it remains still an issue worldwide. Of course, states with a more individualistic culture will be the pioneers in enacting appropriate laws as will be shown in the next section, but all other countries will follow soon or later.

4.2   Legislation on privacy and on RFID

As we have already seen, privacy has a long tradition in legislation and in many lawsuits. Now the developments of new electronic technologies require further regulations in order to protect the privacy of the citizens. In the last decades, data protection and so informational privacy has been regulated by data protection laws. In this regard, Europe and, especially, Germany have been the pioneers in enacting these kinds of laws.

The emergence of RFID technology led to the request for special RFID laws despite the fact that many claim that data protection laws are sufficient to cover the additional (if there are any) requirements of RFID applications. The following section will sketch a picture of the actual situation in Europe and North America, the leading countries in this respect. The situation is in a constant state of flux, and rapid changes should be expected.

4.2.1   Data protection laws in Europe

The development of computer and communication technologies has led to a corresponding flood of data protection laws. These laws intend to protect the informational privacy of citizens. The question that need to be asked relate to what these laws mean for the right to privacy and what their ethical foundations are. To answer these questions the first approach will be to examine the historical development of these laws.

The world's first data protection law was enacted Sept 30, 1970 in Hessen, a state of the German federation (Schmid 2008a:196, 2008b:217). At that time only main frame computers existed in large companies and at public institutions. "Personal computers" for private use did not exist. It was very perspicacious to anticipate such a need for regulating the handling of private data at that time. Regulation was clearly driven by technological development but in the same way that the technology was in its infancy, so also was the legislation. In Germany further data protection acts on a state level and, finally in 1976, on a federal level followed.

A groundbreaking change occurred in 1983 with the so-called *Volkszählungsurteil*[39] (population census judgement) of the Federal Constitutional Court[40] that based data protection on basic rights, and led to a fundamental reform of data protection legislation. This judgement was remarkable, as it substantiated a "right of personality" (Hoeren & Rodenhausen 2008:138) and privacy as part of the German constitution (Deutscher Bundestag 2010), even when this constitution does not mention privacy explicitly. "The Basic Law does not define any special basic right of privacy" (Detjen 2009:87, my translation), but there are two *lex specialis* protecting the home, i.e. local privacy (Article 13), and the privacy of correspondence (Article 10). There is no mention of an explicit right of privacy. The *Volkszählungsurteil* uses a wider approach when it defines the right to informational self-determination and so informational privacy (BVerfG 1983:44f) founded on human dignity (Article 1, 1) and on "the right to free development of personality" (Article 2, 1).

The German constitution does not declare a general right to privacy, but it grants singular aspects as local privacy and privacy of communication. The Federal Constitutional Court deduce from Article 1, granting human dignity and the right of personality as granted in Article 2, the right to informational self-determination, and so informational privacy. For our discussion it is most important to note that the right to privacy is based on human dignity.

Regarding data protection, other European countries have enacted similar laws. It is not necessary to sum up all the national efforts as there are more general activities on the European level that will finally determine the national legislations in the countries of the European Union. The Council of Europe, representing nearly all European states (47 member states), negotiated, in 1981, the *Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data* (Council of Europe 1981). This treaty obliged the participating countries to implement appropriate laws. Thus the European Commission, representing the European Union only (27 member states) implemented the so-called *Data Protection Directive 95/46/EC* (official title *Directive on the protection of*

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[39]   BVerfGE 65
[40]   Bundesverfassungsgericht, BVerfG

individuals with regard to the processing of personal data and on the free movement of such data) in 1995. This directive speaks of "the fundamental rights and freedoms of natural persons, and in particular their right to privacy" (Article 1). The directive is thus based on "fundamental rights" as defined in the *European Convention for the Protection of Human Rights and Fundamental Freedoms* (ECHR). Details of this convention were discussed already in section 3.4.1. To sum up the European situation, the right to privacy is commonly accepted, but the emphasis is clearly on informational privacy. This is obviously driven by the technological development of information and communication technologies but does not consider the latest technological developments like RFID.

For the sake of completeness it should be mentioned that on the global level, the United Nations issued data protection guidelines in 1990, entitled *Guidelines Concerning Computerized Personal Data Files* (United Nations 1990). The Organisation for Economic Co-operation and Development (OECD) in 1980 published *Guidelines Governing the Protection of Privacy and Transborder Flows of Personal Data* (OECD 1980, Schmid 2008b:211).

4.2.2 Principles for protecting personal data

So far we have not discussed the contents of data protection laws. Wolfram et al. (2008:85f) provide a comprehensive overview of the data protection principles and rules as described in the actual German data protection law. For a short indication of data protection principles it is sufficient to list the eight principles of the OECD guidelines (OECD 1980, Schmid 2008b:211f, Langheinrich 2005:333f).

(1) The *Collection Limitation Principle* claims that data are collected legally and with the consent of the owner of the data, the "data subject".

(2) The *Data Quality Principle* claims that stored data are correct, complete, and up-to-date. Further data should be "relevant for the purpose for which they are be used".

(3) The *Purpose Specification Principle* claims that personal data are collected and used for the fulfilment of that use only.

(4) Similarly the *Use Limitation Principle* requires that personal data may be used for the desired purpose only. But these data may be disclosed to others for other purposes "with the consent of the data subject", or by the authority of other laws.

(5) The *Security Safeguard Principle* claims that personal data are protected against loss, unauthorised access, destruction, or other kinds of modifications. This requirement may be difficult to accomplish for RFID systems, or at least require unacceptable efforts for data protection.

(6) The *Openness Principle* claims that the holder and user of the data should be known to the data subject. Further there should be open practices and policies with respect to the personal data.

(7) The *Individual Participation Principle* defines several rules about how the data subject may have control and access to his/her personal data.

(8) Finally the *Accountability Principle* makes the data collector accountable for the correct application of the principles stated above.

All these principles are applicable for RFID applications, if personal data are involved. First of all this depends on the definition of personal data, and this makes the use of data protection laws for RFID systems ambiguous. For example, a random number may not be reckoned as personal data, but will still allow the reliable localisation of a person. In a legal sense, these numbers become personal data (Spiekermann 2011:7) and must be handled accordingly.

4.2.3 RFID legislation in the United States

The actual situation in the US is different from the European situation. So far there are no data protection laws in the US[41] (Langheinrich 2005:332). "Surprisingly, the worldwide pioneers of RFID law come from US state level, not from US federal level" (Schmid 2008a:200). Hildner (2006:138) gives an overview over nine states, where privacy bills regulating RFID were introduced in 2005. Schmid (2008a:202) lists 18 states with pending RFID legislation as of September 2007. Many states enacted RFID laws in order to regulate the

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[41] "No data retention law as yet, but equally no data protection law" in the US says *Privacy International*, a London based "human rights group formed in 1990 as a watchdog on surveillance and privacy invasions by governments and corporations" (Privacy International 2007).

applications of RFID. These laws often include definitions of personal data that may be stored in RFID transponders, as they cannot refer to other definitions of personal data in US data protection laws. These RFID laws have become more comparable to European data protection laws.

Schmid classifies the US RFID legislation initiatives into five categories with often diverging purposes. Most of the legal initiatives fall into the category of *prohibition-legislation*. They are not prohibiting RFID at all, but certain applications only, or they restrict certain cases of application. The category *right-to-know-legislation* emphasises the right of the citizens to know where RFID devices are implemented. *Utilisation-legislation* is the opposite of prohibition-legislation, and defines that in certain cases RFID has to be used[42], and how RFID systems should be operated. The category *IT-security-legislation* demands certain security standards for RFID and the background information technology, like data bases and their protection and encryption. Finally there are a few initiatives classified as *task-force-legislation.* They do not regulate RFID applications directly, but establish a round table of stakeholders in order to examine the legal and technical challenges of RFID. All these legal activities show a patchy picture of RFID legislation in the United States.

In addition, it has to be kept in mind that not all of these initiatives are successful. For example, in 1998 "states introduced 2367 privacy bills and enacted 786 into law" (Hildner 2006:169). The final outcome will be a very heterogeneous legislation, as Hildner (:169) puts it, "[t]he attitude on all sides of the privacy debate has been that the result of state legislation for RFID-tagged goods would be a hodgepodge of differing requirements confusing to retailers and consumers alike". Different approaches, on one side "baseline privacy legislation", and on the other side "technology-specific [RFID] legislation" (:163), impede purposive ruling. Further activities on a federal level would be supportive for a suitable solution. It could help to archive a more streamlined integrative RFID legislation in the US.

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[42]   For example, animal identification in order to fight mad-cow disease (bovine spongiform encephalopathy, BSE).

4.2.4 RFID regulations in Europe

As has been mentioned Europeans have concentrated on data protection and have supposed that these laws are sufficient to cover all RFID requirements. The jurists Hoeren and Rodenhausen (2008:145f) note about RFID, "However, the use of this technology by companies is limited by the Federal Data Protection Act. Up to now, it seems that this law covers all possible applications of RFID". But the public debate about RFID and its effects on privacy has forced politicians not to ignore the issue. "The European Commission is aware that RFID is an explosive issue with regard to privacy and has announced that guidelines for the public and private sectors will be issued […] It has also said that it is willing to review the need for amendments to the previously mentioned [data protection] directives" (Schmid 2008b:217). The European Commission (EC) carried out a public consultation accompanied by several workshops and conferences in 2006. The results were communicated by Viviane Reding, Commissioner for Information Society and Media, at the CeBIT fair in Hanover on March 15, 2007 (European Commission 2007b).

In 2008 the EC released a mandate to the European Standardisation Organisations (European Commission 2008) in order to identify gaps in the RFID standardisation framework (phase 1), and assigned the task to the ESOs to establish such standards (phase 2). The work is going on and the results have not yet been published.

In 2009 the EC (commissioner Reding) published a recommendation "on the implementation of privacy and data protection principles in applications supported by radio-frequency identification" to the member states of the EU (European Commission 2009a), on how to implement RFID legislation on a national level. The final result after three years will be a report of the EC, "a report on the implementation of this Recommendation, its effectiveness and its impact on operators and consumers" (European Commission 2009a:9). Also in 2009, the EC established a Working Group that was given the task of drafting a document describing *Privacy Impact Assessments* (PIA) for RFID applications (European Commission 2009b). There is a document available from the German Federal Office for Information Security (BSI) that responds to the work on this

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PIA paper, and describes the process as well (Kelter, Bartels & Hansen 2010). There was significant resistance to the former versions of the PIA paper by the *Article 29 Working Party*, the task force of the EC responsible for all data protection issues in the EU (European Commission 2011b). They claimed far more restrictive measures for data protection in RFID applications. Sarah Spiekermann, professor at Vienna University of Economics and Business, participated in the negotiations and co-authored the final PIA Framework document. She published a detailed description of the drafting process and a detailed explanation of the legal and economic backgrounds (Spiekermann 2011). Finally, the *Privacy and Data Protection Impact Assessment Framework for RFID Applications* of January 12, 2011 (European Commission 2011a) was completed and endorsed by the *Article 29 Data Protection Working Party*. The agreement was signed in Brussels on April 6th, 2011 by Neelie Krues, Vice-President of the European Commission and Commissioner for the Digital Agenda, and representatives of several European industry associations (European Commission 2011c).

The PIAs and the designation of RFID applications have provided the main focus of the European efforts. The PIAs are defined for certain levels of applications with different influences on privacy (*Full Scale PIA* and *Small Scale PIA*). Details have still to be worked out on standards in phase 2 of the mandate M436. It will be required that RFID emblems or signs on tagged items and on locations be placed where readers are operated. Such signage shall include a reference to the operator and to further information regarding the privacy risk as defined within the PIA process. Already in 2004 AIM, the Association for Automatic Identification and Mobility defined a *RFID mark* that should be applied in RFID applications in order to help operators to work with different tags and readers more easily. The potential confusion of the RFID mark with the *mark of the beast* of Rev 13 led to a name change to *RFID emblem* (Albrecht & McIntyre 2006:236). This AIM standard is the model for the new, not yet published, international standard ISO/IEC 29160:2010 entitled "Information technology - Radio frequency identification for item management - RFID Emblem". There is a high probability that this standard will be the starting point

for the new European standard for a European RFID sign to be developed by the ESOs.

For our topic, RFID and privacy, the PIA process and the templates for these assessments will be most important. Here ethical topics could be introduced, and here we can think of a Judeo-Christian influence on at least European practice of RFID application. Of course, this supposes that Christians can achieve some influence in the political processes on European and national level.

4.3 The global relevance of privacy protection

The discussion around privacy and its possible infringement by RFID has emerged in North America and Europe. This gave the impression that it is a limited problem of so called Western culture. But the investigations described above showed that there is an global problem. We have seen that privacy is an issue in all cultures. Its importance ma be varying in the different cultures, but we can state that privacy protection has to be considered globally. It is also obvious that a lot of further research work is needed, first of all with local scholars that know *their* cultures.

5   Conclusions and future developments

Regarding the theological aspect of the research question there are two steps to take. The first question is whether a statement regarding this question can be made at all from a theological perspective. The second step should then be to find ethical principles from that perspective that apply to this question.

Regarding the technological aspect, RFID has to be seen as a new technological development that requires ethical evaluation. Consequently a debate about RFID and possible infringements of privacy by its application started in recent years, but concentrated mainly on secular grounds. Katherine Albrecht's and Liz McIntyre's book entitled *The Spychips Threat: Why Christians Should Resist RFID and Electronic Surveillance* seems to be a notable exception (Albrecht & McIntyre 2006). It is, at least, one statement from a Christian perspective dealing with RFID applications. In the secular literature there are several hints at the ethical relevance of this debate, but no further work in this direction had been done. So it is important to start this work, otherwise the technical aspects will drown the ethical questions, despite the fact that the ethical dimension is far more important and carries far more severe consequences than all the technical questions.

5.1   The simple answer

Albrecht's and McIntyre's book provides a simple answer to the theological aspect. This book requires a reaction, positive or negative, from a Christian perspective, even when I do not agree with their somewhat simple answer, to avoid RFID. This is it!

Why should theologians and Christians be involved in the debate? Albrecht's and McIntyre's rationale for Christian involvement seems to be very poor:

> No one should dismiss the very serious privacy and civil liberties problems associated with RFID as 'merely a Christian issue,' since people of all faiths and backgrounds value their privacy. Whether you're black, white, Christian, Muslim, Hindu, of Jewish, no one should be surreptitiously tracked and monitored by corporations,

government agencies, or criminals. We defend privacy rights for people of all faiths and backgrounds (Albrecht & McIntyre 2006:XI).

According to Albrecht and McIntyre, the only Christian concern is the similarity of RFID and the *mark of the beast* of Revelation 13. There it is described as a tool for suppressing people. Suppressing people by means of RFID, be it the mark of the beast or not, is objectionable and should be prevented. On the other hand, RFID applications which are useful for serving human beings should be endorsed and realised.

5.2   The complex answer

It is obvious that the ethical questions concerning RFID and the protection of privacy cannot be answered easily, even if they can be answered at all. In order to approach an answer the collection of sources and the assessment of the actual situation is the main work of this dissertation. Regarding privacy and its protection seen from a theological perspective, biblical texts have been considered. The resultant statements are ambiguous. On one hand, there is no privacy for human beings from God's perspective, owing to God's high position over human beings. As Creator, His position is far above that of any creature, even when human beings are in a high position within the hierarchy of creation. There is no way for an individual to hide anything from God. On the other hand, the Bible teaches respectful behaviour among human beings. But no direct teachings can be derived from bible texts, and there is no doctrine on privacy that could be derived easily from biblical texts and Jewish or Christian teaching. Principles regarding privacy can be formulated only indirectly from narratives, described behaviours, commandments, or notions described in biblical or other Jewish/Christian sources. Here human dignity derived from the understanding of the *imago dei* is a key issue concerning privacy questions.

5.3   *Imago Dei* and human dignity as rationale for human rights

The creation of human beings in the image of God substantiates the reason for human dignity and is the basis for the respect that is requested in inter-human relationships. This principle is confirmed by many biblical narratives, by the Decalogue and further Old Testament and New Testament commandments and

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regulations. The commandment of love points in the same direction. Loving one's neighbour includes respect for that person. Interpreting this love to one's neighbour as peace, patience, kindness, goodness, or gentleness (Gal 5:22) allows the conclusion that it includes a certain respect for the neighbour's private life. Respecting human dignity became the rationale for the formulation of human rights, among which the *right to privacy* is part. In addition, the church has shown this understanding of privacy throughout its history in the *confessional secret* among other things.

As shown in section 3.4 it is very difficult, to find a firm foundation for human rights, including a right to privacy, outside the Judeo-Christian area. Attempts to found human rights on religion-independent justifications, especially since the Enlightenment, have only partly been successful. Christian understanding of human beings, their dignity and the *imago dei* concept are clearer and far more precise than the more liberal Western philosophies and ideologies. Christians, therefore, should support all efforts to establish human rights and a right to privacy. Human rights are on the agenda of many states and organisations, but they are still not accepted in many regions of the world. For a right to privacy the situation is even worse. Here work has to be done on the definition what privacy means as will be explained in the next section.

5.4   Data protection in Europe

Data protection legislation was developed in Europe since the 1970s. But, unfortunately, a clear Judeo-Christian influence is missing. Judeo-Christian principles will not really differ from the secular data protection principles and secular principles for privacy protection owing to the fact that their background is a culture shaped by Christianity. But, even so, still clearer statements from the theological ethical perspective are desirable.

European data protection is challenged when companies from outside Europe, for example the US based companies Google and Facebook, operate in Europe and infringe European data protection legislation. These conflicts reveal that much work has to be done in order to establish high data protection standards

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globally. This will be the case, even more, for comprehensive privacy protection principles.

For the protection of privacy there is more to do than data protection. When RFID and privacy are discussed in Europe the discussion is often reduced to the question of data protection. That is an unacceptable reduction. Privacy is more than personal data. This means that for Europe the already achieved high level of data protection has to be maintained, and Europe has to work on a comprehensive protection of privacy.

Furthermore, legislation is only one area of activity. Laws are valid for the whole of society, and criminal activities can be limited but not prevented totally. Ethics and moral behaviour go a step further. Ethical principles are put into practice by people who are convinced of these principles and are willing to accomplish these principles in their lives. For example, chief executives running a company may align their activities to profit maximisation or they can follow ethical values, probably with reduced profits. Jews and Christians in such positions should work responsibly employing Jewish and/or Christian standards. In order to achieve suitable ethical behaviour in organisations, so-called codes of conduct have been put into words in such companies or organisations. Here the acceptable use of RFID and other technologies can be described. Many applications of RFID are under direct governmental control, like electronic passports or ID cards. Governments can set standards and provide good examples of how to deal with RFID and the privacy of citizens.

5.5   Global relevance of Jewish and Christian principles

Old Testament regulations are focused on Hebrew society. They are complex and detailed. They were suitable for a single, manageable society in the Middle East. The New Testament widens the focus to a global view, and consequently New Testament instructions are more universal and less specific, at least more culturally independent. The Great Commission is directed to *all nations* (παντα τα ετνη, Mt 28:19). The Christian faith has spread everywhere (εν παντι τοπω, 1Thes 1:8). This means that the gospel is not specific for the Hebrew culture, but is *compatible* to all cultures of the world. The Apostle Paul,

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the apostle of the Gentiles (Gal 1:16), in his missionary journeys disseminates the gospel to the cultures and societies in the Mediterranean area. The core statements of the gospel, like salvation, love, faith, hope etc., are preached by the apostles and believed by the Christians. The realisation of their faith in their lives did not require an adoption to the Hebrew culture, but could be accomplished in the framework of their culture. Few minor conflicts, like for example the dispute in Acts 15, could be solved easily. In general the gospel is culture-independent. Accordingly Christian principles, *imago Dei*, human dignity, human rights, and privacy rights are suitable for all people and all cultures. This implies dealing with all people in the same way and to avoid injustice.

5.6 Future developments and work to do

This study has firstly been characterised by collecting sources in order to understand and asses the present situation from a theological ethical perspective. The main part of this work is more a groundwork than a framework for future work. However, from the complex answers described above we can conclude that RFID should only be used for applications that do not disesteem human dignity and human privacy. From this conclusions we can extract three fields of necessary further research and appropriate action.

5.6.1 Inclusion of further technologies

It is obvious that RFID is only a small part of this brave new world, and the issue of privacy is a far-reaching topic that goes beyond RFID. There are many other technologies that are privacy related. For example, genetic data of over one million not convicted people are collected in DNA data bases. Fingerprints of children have been taken in schools without parental consent in Great Britain (Clarke 2011:2). Another example is public surveillance with closed-circuit television (CCTV). In order to prevent crimes, thousands of cameras have been installed in public places especially in train and metro stations. In Shenzhen, a new Chinese city of 12.4 million people located close to Hong Kong and economically a Special Economic Zone, there will be 2 million CCTVs installed according to the plans of Chinese security executives. Shenzhen will be "the most

watched city in the world" (van Kranenburg 2008:8). This illustrates that further work is needed to examine the ethical implications of these and similar technologies. Such work has to be done, and it has to be done properly. Good intentions are not enough. The British Minister of Justice, Kenneth Clarke, stated in a speech made in Brussels, "But my fear is that on many of these issues good intentions need to be thought through and, taken too simplistically forward, good intentions could prove counterproductive" (Clarke 2011:9).

There are isolated efforts to protect privacy beyond data protection. For example, the *privacy impact assessments* defined for electronic data processing equipment can be and will be adapted to RFID systems with minor changes (European Commission 2011a). This is an example that should be adapted to other available and future surveillance technologies. We can assume that the same is true for ethical issues.

The development of new technologies always opens up new possibilities for humankind and always requires an appraisal of if and how this new technology should be used. It is a typical ethical problem that a situation emerges that has never before occurred in history and now requires an ethical answer. But the enormous pace of technological development today requires a similar pace for development in the field of ethics.

5.6.2 Comprehensive protection of privacy

As has already been mentioned, in Europe the privacy discussions are often limited to data protection. According to Rössler's definition of decisional, informational and local privacy, data protection has only informational privacy in view. The other two, or even more, aspects should be considered as well. Often it is not possible to assign a straightforward privacy problem to a single of these categories. There are often combinations of several aspects of privacy, and, indeed, further technological developments that change the situation completely.

For example, the above mentioned installations of CCTV can and certainly will be combined with automated face recognition. That means that people can be tracked automatically. Electronic equipment generates data, such as when and where an individual has been observed by a CCTV camera. Another example is

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Google Street View, where three dimensional motion pictures are combined with the internet, i.e. made available globally. Is this an infringement of privacy? Or how should privacy be defined in this case? On the one hand, technology provides a new application, but on the other hand a new ethical grey area emerges and requires ethical answers. The recent political discussions about Google Street View show that privacy infringement and privacy protection still has to be discussed and guidelines still have to be elaborated including their ethical implications.

5.6.3 Global application of ethical principles

The work of Hofstede with the publication of *Cultures Consequences* was groundbreaking work for cultural anthropology. As shown in section 4.1 privacy concerns cannot be limited to so-called individualistic countries. All countries and all cultures have to be considered. Privacy may be valued differently, or may be linked to certain other constituents of society, but it is always there. There is a need for ethical work related to all cultures.

Further the increasing worldwide use of the internet leads to a kind of *cultural globalisation*, not necessarily an alignment of different cultures, but, at least, an information interchange with cultural relevance and, occasionally, the adoption of ethical principles by foreign societies. This underlines the need for privacy protection principles that can be applied globally.

5.7 The relevance of ethics for the application of RFID technology

The ethical questions about RFID applications and their influence on privacy are important. They should be either ignored nor underestimated and answered easily. Technical features like encryption and legal regulations have only a limited supportive effect. They cannot replace the necessary ethical behaviour of the people dealing with RFID. As shown above Judeo-Christian thought leads us to use RFID and every other technology to the wellbeing of our neighbours without violating their dignity. Everybody is responsible to exercise appropriate ethical behaviour.

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