RFID or The Information Society and the Christian Faith

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Table of Contents

1. Introduction

Last year I did a sermon on revelation. There is one passage that has frequently bothered me because technology may already has made possible what Scripture mentions.

Rev 13:16-18:
11 Then I saw another beast that rose out of the earth .... It performed great signs ...
16 And it caused all. both small and great, both rich and poor, both free and slave, to be marked on the right hand or the forehead.
17 so that no none can buy or sell who does not have the mark, that is the name of the best of the number of its name.

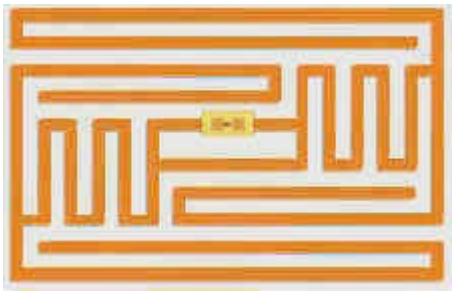
Visions are always vague and many have identified what this Mark of the Beast is and they were obviously wrong. It seems clear that the Mark must be some way to clearly identify a person and exclude that person from the marketplace.

<Read LiveScience Article from Wednesday. 31st May 2006,
http://www.livescience.com/scienceoffiction/060531_rfid_chips.html>

2. RFID?

RFID is short for *Radio Frequency Identification*.[1] It refers to an automated method of identification using a *RFID tags* or *transponders*. RFID tags are small objects that can be attached or inserted into a product, an animal or even a human. RFID tags should not be confused with bar code on products. The bar code that is used in grocery stores to scan products can only be read if the bar code is visible and can be read by the laser that scans for the bar code. RFID relies on Radio waves and works even if the tag or transponder is not visible.

A RFID tags contains a chip and an antenna. Most RFID tags are *passive* meaning that no power source is needed for their operation. These tags take their power from the energy received via the antenna. Therefore they work always and never run out of power. A passive tag has some information stored in it. For a product tag–like the one shown—this is usually an number identifying the product and a serial number. But there is no restriction as to what kind of information is contained in an RFID tags. However, the information in passive tags can usually not be changed.



Passive RFID tag (Walmart)

Active tags are rarer. These have a power source which will usually only last for a couple of months. One example of an active RFID tag is the FasTrack device that is used on Bay Area bridges to collect tolls. Active tags are more reliable and function over longer distances. Active tags can record new information. They may monitor the environment or be reprogrammable so that information (such as the price for a product) may be changed.

Rapid advances continually shrink the size of these devices. A passive tag is usually flat like paper and as big as a postage stamp. Other forms of passive tags may be embedded under the skin of animals or humans. Passive tags can be read over distances of a few millimeters to a few meters with common RFID readers.

Active tags are more reliable and may be read over hundreds of meters and some have a battery lifetime of 10 years. The sizes of active tags goes down to coin size. Active tags cannot be flat as passive tags mostly because a battery is needed.

A *RFID System* is usually composed of a few tag readers and a large number of tags that are embedded in objects that are to be tracked. The RFID tag readers sends a signal and the tag responds with its identification and other information. The reader can therefore determine the presence or location of a certain object and may also be able to asses the state of the object.

The capabilities of readers vary. The distance limitation of RFID can be overcome with the right antenna and additional refinements. There have been reports that passive tags can be read over hundreds of meters.

3. The Promise of RFID

The ability to automatically identify objects in a warehouse and track their history is very important for a business. The Department of Defense requires the use of RFID tags for all deliveries and Wal Mart

1 http://en.wikipedia.org/wiki/RFID

attempts to enforce usage of RFID tags for all of their merchandise. They think that significant cost savings can be realized by being able to track all their merchandise. If a unique serial number is embedded in a product then the RFID scanners at the entrance of their warehouse can register the exact number of products coming in and track how there are delivered to the stores.

There would be some additional side effects if Wal Mart actually realizes the universal use of RFID: A scanner placed at the exits from the store can automatically verify what you have bought. In fact there would be no need anymore to scan the bar codes of what you bought. Just pack up whatever you want to buy and walk out of the door and the money will be taken out of your account. This also will cut down on the number of articles that vanish without being paid for.

4. Uses of RFID

RFID tags are used to *track books in libraries*. The main intend here is to be able to easily track and sort books as well as to avoid the loss of books. RFID tags for books look like a sticker. Some RFID tags are printable meaning that a special printer can produce stickers with an RFID chip that embeds the information required to identify the object.

Canada has mandatory law requiring the use of RFID tags for to *track cattle*. The RFID information is used to track the origin of an animal if the meat is found to be unacceptable during processing.

Michelin is planning to i*mplant RFID tags into their tires* in order to be able to follow a federal law that mandates that the origin of defective tires can be established.

RFID tags can be used as car door openers. Some vehicles are able to sense the presence of their owner via an RFID tag embedded in the key and will open the doors. There is no need to lock or unlock the car anymore.

Tracking systems are widely used for *prisoners.* RFID systems are already established in several states in the US. However, these are not implanted but embedded in a bracelet that cannot be removed.

5. Tracking humans through RFID

In 2004 the FDA approved the use of VeriChips RFID transponders for implantation in humans. These chips work in the low band of 134khz so that there is no radiation risk. The tag incorporates medical information and one of the main arguments is that the hospital would have the complete patient record in the case of an accident and would be able to administer live saving measures faster.

6. The problem with RFID tags

The problems of RFID tags arise from their technical capabilities. RFID tags allow tracking and mostly these cannot be switched off. Information obtained via RFID readouts can be correlated with other information to build a trace of an object or a person using the object.

The main issues of RFID tags are:

- The one owning the product is not necessarily aware of the existence of the tag or of someone reading the information and definitely does not know how the information will be used.
- Tags can be read over surprisingly long distances which allows the use of an advanced RFID reader to track various objects in a large area.
- One example of the combination of information. If the tagged item is paid for by some credit card

then it is possible to tie the person to the object.
- Tags are frequently only used to manage objects in storage. However, RFID tags are rarely removed after purchase which leads to surprising traceability of objects and persons.
- Tags can be used for surveillance of people.
- Hi gain antennas may cover the very long distance. Rumors of 10 kilometers.

> *How would you like it if, for instance, one day you realized your underwear was reporting on your whereabouts?*
>
> — California State Senator Debra Bowen.

7. RFID proposals for Passports and Drivers licenses

Proposal for passports in the European Union. Remote identification f.e. For muggers who can find people from wealthy countries. From October 2006 onwards all US passports will contain RFID tags. Some other countries are already having these out.

8. Identifying Christians through RFID or other measures?

Problem for the case of the control of this data getting into the wrong hands. Ease of Christian persecution. The Mark of the best could be easily realized using RFID implantation in hands for example. The RFID scanners in shops could then detect someone who is not allowed to buy. With RFID technology this can be finally realized without the need for manual checks by humans.

9. Electronic data everywhere

Electronic devices continually loose value and therefore they become cheaper and more universally available. Some RFID tags cost just a few cent per transponder. That is not only restricted to RFID tags.

Cameras also become cheaper. Some municipalities already have citywide coverage through Cameras at all major junctions.

My company supplies hardware that allows large scale data correlation or simulation of the motion of objects through an environment.

10. The need for security in the face of Terrorism

The Eshelon system is in use since WWII to snoop on international communications during the Cold war. Build after the success of the British with cracking German communication methods in WWII. Steadily upgraded. Experience of Phil Zimmerman with developing PGP encrypting email. Students in my class in San Jose on Telecommunications.

Terrorism has opened up the need for more surveillance to prevent future attacks. Now internal communication within the US is being snooped. Taps have been installed at all major Internet traffic points.

Mandating RFID tags for humans for additional security to prevent terrorist attacks?

ID tracking. SGI's huge computers can correlate huge amounts of information available, tracking

through a variety of means SSN, credit card, phone records. The Eshelon system that has existed since the end of the 40s to first listened only to international traffic (consequence of the successful code breaks by the English in WWII).

Terrorist thread leads to more desire for security. Security solutions are sought after to make us more secure. Cost for tracking devices is sinking. GPS. Cameras.

Welcome to life in the fishbowl!

11. Who controls the data?

Dangerous because Christians can be identified easily. If there is another persecution then it iss going to be extremely thorough. It may be difficult to not be tracked.

12. The exclusion of Christians from society

Emerging discrimination against Christian view. Mandatory hiring of homosexuals etc Bay area municipals contract. Various other measurements to enforce the right way of thinking. F.e. Even at the seminary I had to learn to express myself in a gender neutral way.... And there was certainly an agenda behind this reeducation attempt. Baby boomers are in control (esp in academia)!

Complaints against Christians:
- Discrimination against homosexuals
- Sexism
- Sexual ethics (like no sex before marriage). Seen to be harmful to sexual development of children.
- Inflexible.
- Labeling of people as evil. Secular thinking is that the environment determines that and they just need to be reeducated.
- Intolerant

Scrutiny and higher levels of education lead to a chipping away on some of the details of our way. F. e. there used to be discussions and actual theological arguments about the color of the carpet in a church that even led to Church splits in the first part of the 20th century. With the higher education and global accountability these village theologies are no longer tenable. Instead the basic notions of faith become clarified and Christian fellowships grow closer together.

13. Changes to the way the Gospel is preached

Benefits of the global village:

Ability to globally communicate. But also global scrutiny. Cannot get away with it anymore due to ignorance. They will tell you! Do not try this! If you want to make an argument then it needs to be first class and withstand scrutiny. Global Community. Global culture. Global preaching. The gospel (at least in some form) is always globally available. The Great Commission is fulfilled in some sense.

Only some last pockets of unreached. Challenge of cross cultural barriers.

Active resistance
- Islam

- Materialism
- Relativism / Absolutism (4 Gospels)

Relativism: We have an edge into the secular would through our spirituality but not though our intellectual system of beliefs (that we had in the past when we could appeal to the societal consensus on ethics and faith).

The global Christian village
Knowledge and information universally available.
Awareness of our history.
Empowerment of the individual believer.
Fragmentation can only be preserved by control of communication (F.e. Islam).

Clarification of the core of our faith.
Falling away of cultural distinctiveness.
Reunification of churches. Light into dark spots (Catholic priestly abuses etc).

Mono culture
Danger of living in our own information bubble where we only hear what others of the same persuasion think instead of having an accurate picture of what is actually happening in the world.

14. Conclusion

After hearing all of this please do not panic. We do not know if this RFID are really going to be used as a Mark of the Beast. If this is happening and a new persecution starts then we know that we are nearing the end of this world but also near a beginning of the new world that God will create. He said in Revelation 21: 4-7:

(4)And God will wipe away every tear from their eyes; there shall be no more death, nor sorrow, nor crying. There shall be no more pain for the former things have passed away.

(5)Then he who sat on the throne said, "Behold, I make all things new." And he said to me, "Write for these words are true and faithful."

(6)And he said to me, "It is done. I am the Alpha and the Omega, the Beginning and the End. I will give of the fountain of the water of life freely to him who thirsts.

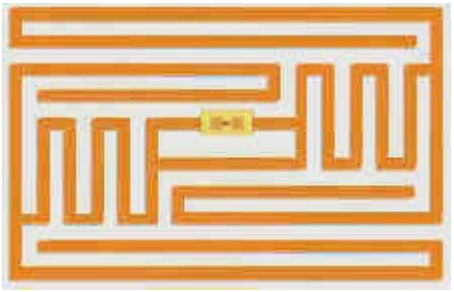
(7)He who overcomes shall inherit all things and I will be his God and he shall be My son.

Amen.

RFID

or *The Information Society and our Christian Faith*

Rev 13:16-28. The **Mark of the Beast** (yet another one??)



The inside of a *passive* RFID tag or transponder like currently in use by Walmart. Note the chip in the center surrounded by the antenna:

1.What is RFID?

Radio Frequency Identification
Active and Passive
Readers and Tags / Transponders

2. The Promise of RFID

Tracking objects

3. Uses of RFID

4. Tracking humans

VeriChip's design

5. Problems with RFID tags

Readily readable by everyone
Ability to correlate with other data
Cannot be switched off

6. RFID for Passports and Drivers licenses

Passport proposal in EU.
From Oct 2006 onward US passports
Other countries /states had them for years

FasTrak: An *active* RFID system

7. Identifying Christians through RFID or other measures?

Potential for a very thorough persecution.
Ability to limit what we can do (buy/sell?)

8. Electronic data everywhere

9. The need for security in the face of Terrorism

Security justifies lots of data collection
and correlation. Huge databases are build.

10. Who controls the data?

11. Exclusion of Christians from society?

Rev 21:4-7: Seems that Scripture says that the world is going down and at some point God will have to create a new world for us.

RFID chip designed to be implanted in human beings (VeriChip)