

Reports from the Department of Philosophy
University of Turku

**ON THE ETHICAL DESIRABILITY
OF
CONSIDERABLE LIFE EXTENSION**

Rosa Rantanen



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ON THE ETHICAL DESIRABILITY
OF
CONSIDERABLE LIFE EXTENSION

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ABSTRACT

This thesis is a tool for evaluating the ethical desirability of considerable life extension. The discussion on the topic brings together metaphysical questions related to life and death as well as practical bioethical concerns related to just distribution, the environment and new technologies. Due to the multifacetedness of the topic, there does not exist a unified ethical discussion on the issue.

Manipulating the biological aging process by means of new medical technology changes the way we look at old age, aging and mortality. Intuitively, people see life as a good thing. Most people think that death is bad and that more life is always better. Yet most people would not want to live forever. This paradox is essential: we do not want to die but we do not want to live forever, either. On the other hand, living for hundreds of years is very different from eternity and thus a considerably long life appeals to many.

Life extension is personally desirable for many but some philosophers argue against life extension based on societal or environmental concerns. My claim is that even though it is not obvious that considerable life extension would be ethically desirable, it is at least ethically *acceptable*. However, there are also good reasons to remain cautious when developing solutions that could enable a considerably long life by manipulating the process of biological aging.

The first part of the thesis is an introduction to the ethics considerable life extension. The second part consists of reprinted original articles on more specific themes related to the topic.

Keywords: bioethics, considerable life extension, death, human enhancement, immortality, life extension, philosophy of death

TIIVISTELMÄ

Väitöskirjani tarkastelee ihmisen eliniän huomattavaan pidentämiseen liittyviä eettisiä kysymyksiä. Aiheeseen liittyvässä keskustelussa elämään ja kuolemaan liittyvät metafysiset kysymykset yhdistyvät bioeettisiin kysymyksiin oikeudenmukaisuudesta, ympäristöön liittyvistä asioista ja uusista teknologioista. Aihe on siis varsin moniulotteinen eikä eliniän huomattavaan pidentämiseen liittyvä eettinen keskustelu ole yhtenäinen. Biologisen ikääntymisprosessin manipuloiminen lääketieteen teknologian avulla muuttaa käsitystämme ikääntymisestä, vanhuudesta ja kuolevaisuudesta.

Useimpien ihmisten intuitio on että elämä on hyvä asia. Kuolema taas nähdään yleensä pahana asiana ja pitkä elämä parempana kuin lyhyt. On kuitenkin yleistä, että ihminen ei halua elää ikuisesti. Tämä paradoksi on elinikäen liittyvän filosofisen keskustelun ytimessä. Emme halua kuolla mutta emme myöskään elää ikuisesti. Toisaalta joidenkin satojen vuosien mittainen elämä on selvästi eri asia kuin ikuisuus ja siksi pidennetty elämä houkuttaa monia.

Vaikka moni pitää eliniän pidentämistä henkilökohtaisesti tavoiteltavana, sitä vastaan on argumentoitu vetoamalla muun muassa yhteiskunnallisiin ja ympäristöön liittyviin haasteisiin. Oma johtopäätökseni on, että vaikka eliniän huomattava pidentäminen ei välttämättä ole eettisesti tavoiteltavaa, se on ainakin eettisesti *hyväksyttävää*. Biologiseen ikääntymisen prosessin muokkaamiseen liittyviä ratkaisuja on kuitenkin arvioitava huolellisesti. Väitöskirjan ensimmäinen osa on johdanto, jossa esitellään huomattavaan eliniän pidentämiseen liittyvää eettistä keskustelua. Toinen osa koostuu alkuperäisartikkeleista, jotka käsittelevät tarkemmin aiheeseen liittyviä teemoja.

Asiasanat: bioetiikka, etiikka, elinikä, eliniän huomattava pidentäminen, ihmisen parantelu, kuolema, kuoleman filosofia, kuolemattomuus

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A Doctoral Thesis is an academic effort but this topic has also forced me to look into myself and to face my own views about life, longevity and death. I would like to thank the people who are no longer with us but who are still in my heart and who taught me many lessons about encountering death, loss and letting go. I would also like to thank all the people that I have talked with during the last couple of years who have survived unbelievable suffering, been very close to death in many ways, left their homes as refugees and reshaped their identities. I thank each person for their openness, trust and valuable life lessons. Besides philosophy, death is a thread, a smell, a sound, an action, an omission – a reality that we cannot escape. I kept the memories and many discussions of good life and the inevitable end of it in mind while writing about theory and talking to different audiences. I did this to remind myself and others that life and death are not only philosophical problems but a reality that we all get to, and must, face.

PART I: INTRODUCTION

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IV Is Considerable Life Extension an Enhancement?

Global Bioethics 25, 2, 2014.

V James Stacey Taylor (Ed.): The Metaphysics and Ethics of Death

With Juha Räikkä. *J Value Inquiry* 49, 2015.

1. INTRODUCTION

In this chapter, I will introduce the motivation and background for writing a Doctoral Thesis about the ethics of considerable life extension. Throughout the thesis, I aim to maintain a humane approach to life, death and life extension although many of the philosophical issues are very technical. In this chapter, I will also briefly explain the methods and approach used in the research.

1.2 BACKGROUND

I was four when I realized I will one day die. I was laying in my bed somewhere in a rental cabin in Sweden, waiting to fall asleep after a fun summer's day. It was a kind of neutral, logical realization; by the time my two-year-old little brother will be my age, I will be six. When he will be six, I will be eight. And so on, until one day (as impossible as it felt at that time), I will reach the age of thirty-something like my parents, then sixty-something like my grandparents, then perhaps even eighty-something like my grand-grandma who lived upstairs from my grandparents...and then, I will die.

Obviously, I didn't particularly like the idea of dying, nor did I understand what it means - I still don't. In my surroundings, most people died due to old age. I knew about funerals but the concept was of death was very abstract. Christian religious beliefs were introduced to me as they are introduced to a child when her family is not particularly religious but the 'secular' society around is still built around Christian traditions and it's still normal to sing hymns at the school celebrations (this was the social landscape of Finland in the early 1990's). People tell their children that dead relatives go to heaven. It's easy. Honestly I don't remember what I was told. I was aware of the Bible, Jesus, and angels, embraced them for a short time and then let it all go.

What caused me to wonder upon these things in the first place well before my sixth birthday, I can't tell. I'm guessing that I just let the philosophical tendencies of a child's

mind run free. I remember concluding that after one is dead, one doesn't exist anymore. Yet I had, obviously, difficulties understanding what this means. My thinking was compatible with the prevailing scientific, academic worldview. In a way, it is an Epicurean way of thinking. This is not to say that the five-year-old me was as intelligent as Epicurus or established academics of our time: it is to say that questions about metaphysics and ethics of death and life are highly intuitive. What does it mean for your life to end? Will you live in an eternal emptiness? Would you not do anything to avoid that? Would it be good to live forever?

To answer these questions, philosophy can be of use. In relation to personal experiences and feelings, I can only speak for myself. But the questions that intrigue me are universal. As Epicurus said, once we die there is no one left to experience pain or pleasure – or 'being dead'. Although this rational explanation can offer some comfort, it does not always manage to do its job; it does not abolish the fear of death. Even when it does, there is another question to ask: even if I accept the fact that someday I will be gone, would I still gladly embrace more experiences, more encounters, more feelings – more life?

I was twenty-five when I started to explore the theme of death in philosophy, motivated by my supervisor's suggestion. By that time, I had learned plenty about life and death compared to the time I was four. Yet these things seemed as mysterious as ever. As I had already started my philosophical exploration of the limits of humanness, continuing to do research related to new technologies and the changes they might bring along felt like a natural way to proceed with. Thus, to make a long story short, by combining a few of my central interests with the theme of death, I ended up working with questions related to considerable life extension. It is related to many ethical fields such as ethics of new and emerging technology, medical ethics, global justice, and philosophy of death.

At times, the issue has felt quite heavy and a little bit uncomfortable. The discussion about considerable life extension is inherently related to the meaning of life and death, which makes it fundamentally intriguing, terrifying, universal and personal at once. The theme of death has been a rising field of philosophy for the past 20 or 30 years. Perhaps this is, at least partly, due to the change in the way we think of our humanness in the rise of modern technology and medicine. Perhaps it is also a result of the need for new ways of confronting death and of forming rituals.

This work is an exploration of ethical questions related to considerable life extension. Considerable life extension, in this work, refers to the possibility of extending human life by hundreds or even thousands of years by means of medical technology. The ethical questions related are multiple and challenging. The ethical discussion is vague and interdisciplinary in nature, which makes it even more challenging to explore considerable life extension as a unified issue.

The topic attracts plenty of attention in academia and outside of it. The public interest means that there is a possibility for philosophy to serve as a helpful tool for general audience to grasp a somewhat complicated issue. In the case of bioethical issues I think that it is an opportunity for, and to some extent a responsibility of, a researcher to sometimes reach beyond academic circles to serve others who are possibly struggling to understand the same issue that you are working with on a daily basis. There are many ways to look death in the eye, and philosophy is one of them. Since death has no relevance without life, researching the arguments about life extension also help in defining what do we find valuable in life. I still believe firmly that I will one day die and so will you. But in the meantime, we can keep discovering the things that make life -and perhaps extending it - meaningful.

1.2 METHODOLOGY

This Doctoral Thesis is a critical overview on the existing ethical discussion on considerable life extension by means of medical technology. It is a literary review based on ethical literature mostly, although not exclusively, from the 1980's to early 2000's. Classic writings such as Epicurus's view on death are included but the emphasis is on their contemporary interpretation. I concentrate on the tradition of analytical philosophy. There is no particular ethical theory I aim to argue for. Rather, I map out the main ethical questions related to the topic, analyze the arguments and evaluate the coherence and unity of the discussion. At the end, I make some conclusions and suggestions considering what ethical viewpoints should be taken into account when discussing considerable life extension. For this purpose, I introduce a tool called the CLE table. My suggestions are aimed to be helpful for researchers, students, decision-makers, healthcare professionals and others interested in the issue.

2. Death and Immortality

My research centers around life. But when we talk about life, death is never too far away – the two are inevitably intertwined. Throughout history, philosophers have discussed the nature and meaning of death. In this chapter, I will take a brief look at the Western understanding of death including death's medical criteria and philosophical definition as well as some reflections on causes of death. An overview on questions related to immortality is also included, since immortality is closely related - either rhetorically or philosophically - to discussion on considerable life extension.

2.1 What Is Death and Is It Bad for Us?

What is death? Answering this question is crucial for understanding further questions related to death. Death can be defined as the permanent end of our personal existence. A more animistic definition would be that death occurs when all our bodily functions have seized. There are several philosophical and cultural understandings of what death means. For the purposes of this thesis it is particularly important to distinguish between medical criteria of death and philosophical definitions of death.

The *medical criteria* of death most commonly used in Western countries are cardiorespiratory death and brain death. Cardiorespiratory (cardiopulmonary) death refers to a person's heart stopping and thus causing death. Brain death is determined as the cessation of brain function while a person's heart is still beating. The brain death criterion has been adopted as a criterion of death in 1968 in the United States. The definition of brain death that is now commonly used is based on a 1968 report called *A Definition of Irreversible Coma: Report of the Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death*.¹

¹ A Definition of Irreversible Coma: Report of the Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death. JAMA. 1968;205(6):337–340. doi:10.1001/jama.1968.03140320031009

Currently, brain death is widely accepted as a legal criterion of death in many countries, although its determinations vary. Finland has been one of the forerunners in the use of the brain death criterion. Brain death was accepted as a legal criterion of clinical death in Finland in 1971.

Organ donation is an inseparable part of the ethical discussion on brain death. Accepting the brain death criterion enables procuring organs from a patient while their body is still otherwise functional. Since there is almost always a lack of potential organ donors, the possibility to harvest organs from brain dead persons offers a valuable possibility to help other patients with life-threatening conditions. Of course, there are multiple questions related to the ethics of organ transplants. Some of these issues arise on a practical level when dealing with various cultural and religious backgrounds of patients and their families.

Although the concept of brain death was introduced decades ago, it has never really been agreed upon and it is continuously critically discussed. In 2002, Eelco Wijdicks published a study which showed that despite being used in most countries, there is no global consensus on defining brain death. (Wijdicks 2002.) A similar study was conducted again in 2015, showing that there were still notable differences in practices considering perceptions and practices of brain death. (Wahlster et al 2015.) Based on the data received from a questionnaire sent to physicians worldwide, the authors state that “whether a harmonized, uniform standard for brain death worldwide can be achieved remains questionable” (Wahlster et al 2015, 1870).

Recently, Peter Singer has argued that “the evidence now clearly shows that brain death is not equivalent to the death of the human organism. We therefore face a choice: either we stop removing vital organs from brain dead patients, or we accept that it is not wrong to kill an innocent human who has irreversibly lost consciousness” (Singer 2018, 153). He mentions Jeff McMahan’s ‘higher brain account’², according to which humans (and other beings with high level of consciousness) can die while our bodies are still alive as organisms. Singer writes: “McMahan’s proposal has the merit of not denying that human organisms die in the same sense that plants die. Hence it does less violence to the

² McMahan 1995.

common conception of death than other defenses of a move to a higher brain definition of death” (Singer 2018, 162).

In short, Singer offers a contemporary, clearly articulated bioethical view on the question that has been part of the brain death discussion for decades: is it acceptable to take organs from people whose body, apart from the brain, is still alive in order to save other people in need?

Singer refers to the case of Jahi McMath, a girl in the United States who was declared dead using the brain death criteria. Jahi’s case has attracted a lot of public attention, because Jahi’s family refused to accept that she was dead and even more so because some medical professionals looked into the case and evaluated that Jahi is not, in fact, dead. The case is an example of a situation where not only the family members disagreed about the acceptability of the notion of brain death but medical professionals also disagreed about whether Jahi in fact was brain dead or not.

Jahi’s case and its bioethical aspects are exhaustively analyzed in a 2018 article by Rachel Aviv in the *New Yorker*³. The article picks up several problems related to brain death, one of them being that the concept of brain death is developed by people who appreciate intellect and secular scientific views over other believes. It is quite obvious to many bioethicists and medical professionals that it can be difficult to make patients or their relatives understand or accept medical procedures, because of varying cultural and religious beliefs. Doctors might face challenges, for example, if a family does not recognize the concept of brain death or they consider withdrawing life support a sin.

Especially when dealing with death, dying and loss, it is crucial to consider not only the prevailing philosophical and medical traditions (which also are not permanent, from the historical point of view) but to respect people’s beliefs, traditions and personal feelings even when they contradict the majority view. The *New Yorker* article quotes bioethicist Alan Weisbard who states that ““minority communities should be forced into a definition of death that violates their belief structures and practices and their primary senses” (Aviv 2018). However, it is important to notice that many minority communities in the Western

³ Aviv, Rachel. What Does It Mean to Die? *The New Yorker* 29.1.2018, URL: <https://www.newyorker.com/magazine/2018/02/05/what-does-it-mean-to-die>.

countries (who are not minorities elsewhere) do recognize brain death as a criterion of death and have no trouble accepting organ donations, as long as they are carried out in a respectful manner. For example, an article by Arbour et al. (2012) points out that “Islamic scholars and authorities representing all Muslim countries passed a clear fatwa designating brain death in 1986” (Arbour et al. 2012, 382-383). Because there are various views within minority communities and different religions, cases of brain death and organ transplantation need to be addressed with great cultural sensitivity but without making generalizations.

Although there are many contradicting views about the brain death criteria, they are all concentrated in the medical criteria of death. It is important to distinguish between the medical criteria of death and the philosophical definition of death. Philosophy of death seems to have revived in the past 20 or 30 years, which means that multiple philosophers have examined questions such as what is death, is death a bad thing, should we fear death and what is the relation between our personal identity and death. Some interesting works on philosophy of death include *Death* by Geoffrey Scarre, *The Philosophy of Death* by Steven Luper, *10 Good Questions about Life and Death* and *Annihilation: The Sense and Significance of Death* by Christopher Belshaw, *Well-Being and Death* by Ben Bradley, *The Oxford Handbook of Philosophy of Death* by Ben Bradley & Fred Feldman & Jens Johansson and *The Metaphysics of Death* by John Martin Fischer.

Let us now move on to briefly scrutinizing the philosophical notions of death. According to Thomas Nagel’s definition, death is the “unequivocal and permanent end of our existence” (Nagel 2010, 1). Thus, death is bad, because it deprives of life itself.⁴ If we define death along the lines of Nagel, then death is our permanent end as persons.

From a legal perspective, a person is dead when the crucial brain functions have stopped. It is also possible that a person suffers a brain injury that leaves the critical brain functions intact in a way that the person does not meet the criteria of brain death. In these kinds of cases we are left wondering how much of the individual’s personality and self-awareness need to stay intact in order to the person to be alive. Furthermore, we meet the

⁴ Nagel’s account can be called the deprivation view and I have scrutinized in further in my article *Considerable Life Extension and the Deprivation View*. As I note, the fact that life has intrinsic value does not mean we should live as long as possible.

metaphysical question of how much of the person needs to remain unchanged in order for her to remain the same person.

A braindead person remains the same as before, externally, but they don't seem to exist as a person who they used to be. Regarding this, Nagel provides an imaginary scenario in which a smart individual suffers a severe brain injury and turns into a "content infant" (Nagel 2010). The content infant does not seem to be the unlucky one. Instead, the person that was before has been deprived of something. Thus, the person who existed before the brain injury has "died" but a new one has emerged. Yet the person has the same appearance and relations to loved ones - these don't seem to disappear with the brain injury, even if the personality becomes unrecognizable.

In his 2013 article *Brain Injury and Survival*, Walter Glannon examines whether individuals who suffer a severe brain injury survive the events that caused them.⁵ He sums his view on survival as follows:

"'Survival' means that an individual continues to exist as that same individual despite changes he or she undergoes from an earlier or later time. If these changes involve a permanent disruption in the connectedness or continuity of one's essential physical or psychological properties, then the individual in question ceases to exist." (Glannon 2013, 246.)

As he notes, this view pretty much follows Derek Parfit's view on continuity of identity⁶. Glannon defines two critical questions regarding survival: whether we define people essentially as human organisms or as persons and whether we adopt a numerical identity or a narrative identity as bases of our existence over time.⁷

From everyday experience we know that a change in a person's character does not change the way we relate to them. For example, once my grandfather stopped recognizing me because of his Alzheimer's disease and lived in his own world, it was still clear to me

⁵ Glannon, Walter (2013). *Brain Injury and Survival*. In Taylor, James S. (2013), ed. *Metaphysics and Ethics of Death*. Oxford University Press, New York.

⁶ See r.g. Parfit, Derek (1984). *Reasons and Persons*. Oxford: Oxford University Press.

⁷ Glannon 2013, 246.

that he was my grandfather. Family members, friends and others can relate to a person through shared memories, feeling of familiarity, touch and appearance, smell, voice, and other qualities. However, if there is no possibility for communication left and the prognosis is not good (as in the case of brain death), people usually feel much less related to the person and are willing to let go.

For his 2015 documentary, *Human*, French photographer Yann Arthus-Bertrand interviewed more than 2000 people around the world about their views on different aspects of humanity and life.⁸ One of the interviewees reflects on his friend's words from childhood. According to his friend, life is like delivering a message from the child that you were to the old person you will one day be.⁹ This can be interpreted in many ways. Perhaps the purpose of life, as the interviewee suggests, is to deliver beautiful ideas from childhood to old age. But there is also an underlying thought about continuity, a kind of a layman's perspective of the psychological continuity view supported, for example, by Glannon and Parfit. What really matters is not so much an individual remaining unchanged over time but rather an individual maintaining continuity over time.

One of the most discussed points in philosophy of death is the question whether death is a bad thing. Two of the perhaps most famous views on the badness of death are the so called Epicurean view and the deprivation view. The Epicurean view is inspired by Lucretius. In his words: "Nothing for us there is to dread in death, no wretchedness for him who is no more" (Lucretius, *On the Nature of Things* (III)). According to Epicurus, death is not to be feared: the fear of death is irrational. There is no reason to worry about existing after death in as if we would exist in some kind of a dark void; after death there is simply nothing for us left to experience. Death is the end of our personal experience and thus after the moment of death there is no one left to feel anxiety, or pleasure for that matter. As Michael Hauskeller has put it, "we will not even be dead, because there will not be anyone left to be anything at all" (Hauskeller 2013, 92).

The Epicurean view is often referred to as supporting the idea that death is not bad for us. While I will not be one to contradict that assumption, it should be emphasized once more

⁸ Arthus-Bertrand, Yann (director) (2015). *Human*. Humankind Production.

⁹ *Ibid.*, 2:55:18-2:56:31, translated from Portuguese.

that Epicurus was mainly focusing on fear of death. In fact, it is possible to think that while there is no reason to be afraid of death, it can still be bad for us. Asking whether we should be afraid of things that are bad for us can be separated from asking whether something is indeed bad for us.

According to the Epicurean concept of hedonism the main goal of life is to experience pleasure and to avoid pain. In the Epicurean view, death is a neutral event and there is no afterlife; no punishment to be afraid of and no paradise waiting for us. Thus it is also very easily compatible with a predominant Western scientific and secular belief system.

The thought about death as a neutral event that should not be feared is also compatible with many religious views. However, religious thinking is generally associated with the belief of an afterlife in the form of heaven, hell or reincarnation. In many cases, people are encouraged not to fear death, since death is nothing but the will of god and it signifies salvation, rest from earthly struggle, permanent peace and reunification with their loved ones. On the other hand, many religions suggest that the sinners are doomed to hell, which of course makes the prospect of one's own death much more haunting. Yet the images of heaven and hell are something that takes place after death and death is nothing but a pit stop on the way to paradise (or damnation, if you're unlucky). Although secular philosophers mostly reject the idea of afterlife they sometimes discuss the possibility of becoming immortal through once achievements (such as art or science) or surviving death by being good.¹⁰

Regardless of whether we accept the philosophical stand that death is nothing to us, in everyday discussions we usually refer to death as something negative. If we hear of a passing of an elderly neighbor, a famous soccer player, a musician or any fellow citizen, we tend to feel melancholic about it. It is generally considered odd if someone's death sparks happy emotions in us. If we hear of a fatal car accident nearby, our first reaction is usually some level of shock or grief. When we get up in the morning, many of us are not prepared to die. Indeed, it would be considered a great misfortune. If I walk into a lecture room and ask how many people would like to die today, the answer is most likely zero.

¹⁰ For the latter, see Mark Johnston's 2010 book *Surviving Death*, in which he argues that there is no persisting self and that a truly good person can, in a way, survive death.

As Bernard Williams puts it, there are two ways of arguing that death is not necessarily an evil; “death is said by some not to be evil because it is not the end, and by others, because it is” (Williams 1973, 82). By the former, he is referring to beliefs about afterlife, by the latter to the Epicurean view. The Epicurean, or deprivation, view is based on the assumption that death signifies the loss of something. As Williams sees it, it is not irrational to think that losing one’s loved ones, hobbies, work or other meaningful things in life is bad. Instead, it is irrational to think that death itself is bad. (Williams 1973, 84). It is crucial to keep in mind that the (Epicurean) view that death is not to be feared is not equal to the view that death is a bad thing. Furthermore, it is quite often the case that even though someone accepts the Epicurean *reasoning*, they might still be terrified of death (as humans we have many fears that we know not to be rational).

Despite the fact that most people would not like to die at this moment and consider death a negative thing, there are also exceptions. If a person is, for example, terminally ill and suffering greatly, they might wish for their life to come to an end. Many people commit suicide or attempt to commit suicide as a consequence of stress, depression and other mental health issues. There are many possible reasons to commit a suicide, including shame, honor, and the choice to die before one’s health and understanding will deteriorate permanently (such as in case of Alzheimer’s disease or MS).

In 2011, fantasy novelist Terry Pratchett appeared in the documentary movie *Choosing to Die*, in which he explored the possibility of assisted suicide motivated by his own Alzheimer’s diagnosis. He meets individuals who have, or who’s loved one has, taken the conscious decision to end their life by assisted suicide. Most cases of euthanasia or assisted suicide in medical facilities appear when it’s estimated that the patient has only one or two days left to live. However, some people choose assisted suicide as a way to exit this life in what they see a dignified way. One such story in the documentary is told by an elderly woman whose husband chose assisted suicide due to his Alzheimer’s diagnosis. Just before the moment of death, the couple laid down on a bed side by side, drank some champagne and sang one of the man’s favorite songs. Without romanticizing this kind of decisions, it seems reasonable to ask why this kind of a freely chosen way to exit should be morally condemned (I believe it shouldn’t).¹¹

¹¹ Russel, Charliel (director) (2011). *Terry Pratchett: Choosing to Die*. KEO Films.

In philosophical literature on philosophy of death, it is typical to reflect on the possible moral justification and reasoning behind suicide. In medical ethics, a lot of attention has been paid to different aspects of physician-assisted suicide (assisted suicide, euthanasia) but due to the extensive number of existing literature on physician-assisted suicide, I will not go deeper into the topic in this thesis.

Self-harm is not a prevailing theme in the discussion on life extension (unless it is discussed as a way out of immortality) but statistically speaking, suicide is not a marginal phenomenon. According to the WHO, approximately 800 000 people die of suicide every year. This is close to 1,4 % of all deaths in the world and makes suicide the 17th most common cause of death in the world.¹² According to the report by Lazaro et al. (2010)¹³ carried out as part of the *Global Burden of Disease Study 2010*, self-harm was the 13th most common cause of death globally, leaving behind many types of diseases (such as certain types of cancers), accidents (fires, falls) and interpersonal violence. Statistically speaking, a person is more likely to die of suicide than as a victim of homicide, by breast cancer, leukemia, poisoning or by exposure to forces of nature.

A suicide attempt is not always proof that a person actually wishes to die. For example, it may be a cry for help or an impulsive act taken under the influence of drugs or alcohol. A suicide (or a suicide attempt) says little about whether the person is scared of dying or whether they think that death is bad. At least they seem to feel that death, considering their life situation, is the least painful option.

Statistics suggest that contrary to the common idea that people do not wish to die, at any given moment there is a significant amount of people willing to end their own life. Whether this is a result of physical suffering, mental health issues, a traumatic event, an existential pain, societal and social environment (or a combination of all of these) or something else, is debatable but does not change the numbers. In conclusion, I want to point out that in addition to external threats, many people are actually potential causes of death to themselves, which should be considered when discussing eliminating different causes of

¹² http://www.who.int/mental_health/prevention/suicide/suicideprevent/en/

¹³ Lazaro et al. (2010). *Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010*. *Lancet* 2012, 380; 2095-128.

death that affect life expectancy. It is also not as clear as it seems at first sight that people prefer life over death.

In general, it is easy to state that ‘either you’re dead or you’re alive’ but actually the causes, criteria and definitions of death are much more complex than many people might think. In practical bioethics and decision-making it is crucial to consider the definition and criteria of death before drawing too many conclusions about death and life extension. Different understanding of death will produce different understanding of moral rights and duties in a society. In the case of considerable life extension, it is important to understand whether choosing (a longer) life over death is always as intuitive as it seems at first sight.

2.2 Immortality

Immortality is a source of endless dreams and ambitions in many belief systems in our times and before. The search for immortality, the Holy Grail, the elixir of life, and so on, has been a continuous source of inspiration for philosophy, religion and literature around the world. Historically, definitions of immortality in the philosophical literature have usually been quite abstract, referring to a mystical possibility of being immune to death. Immortality is often presented as a person remaining a certain age through time.

The terms ‘immortality’ and ‘immortals’ have also been used in the more recent bioethical discussion on life extension. Although understandable, I think this kind of rhetoric in the debate on considerable life extension is not useful because it leads us to think of something that we are not actually talking about.¹⁴ Note that I do not believe that this means that the discussion on immortality is not important or interesting in a more general philosophical sense.

Let us look at some philosophical definitions of immortality. Outside bioethics, philosophers are more interested in the metaphysical questions related to immortality and, unlike in most cases of contemporary bioethics, there is no need for contemplating on

¹⁴ This view is further explained in my paper *Considerable Life Extension versus Immortality* that can be found at the end of this book.

realistic prospects of medicine and technology. Plato believed in the immortality of the soul. For him, death is a path to afterlife and thus also a new beginning. Contrary to this, Epicurus firmly believed that death is the permanent end of human existence and experience. James Warren, for one, has pointed out that according to the so called Epicurean views immortality is not a desirable goal. In his words, “the Epicureans are explicit in their claims that there is nothing desirable in immortality. Life is not made worse for the fact that it will come to an end: mortality per se is not lamentable” (Warren 2004, 110). But as Warren also notes, some scholars do not see this as obvious. As Ted Honderich, to whom Warren refers, puts it, we want (to continue) living just because of living itself.¹⁵ Personally I’m inclined to think along the lines of Honderich here; it is not only the fear of death that may make people pursue an extended life.

There is a difference between fearing death and wanting to live more just for the sake of the intrinsic, primitive value that being alive has for human beings. Nagel refers to by stating that when given the choice between dying now and living for another week, he would always choose to live another week, even though he is not per se excited to live forever. Thus, he concludes, he seems to want to live forever. (Nagel 1986, 224.)

Michael Hauskeller has noticed the same issue and points out that when asked, most people do not want to die. But it is entirely possible and even likely that the very same people do not wish to live forever, either. As Hauskeller points out, there does not exist an extensive quantitative research on attitudes on considerable life extension. Although not scientific, the answers that he has received from his colleagues and audience indicate that people are not inclined to live forever even when they do not wish to die. (Hauskeller 2013, 90-91.) I have had very similar, yet also not scientific, results when talking to different audiences around the world about considerable life extension. I agree with Hauskeller that “we cannot infer from the fact that they do not want to die that they do want to live forever” (Hauskeller 2013, 90-91). I also agree with him completely that from this statement it does not follow that considerable life extension would be bad, wrong or ethically undesirable. (Hauskeller 2013, 91.)

¹⁵ Warren 2004, 110, footnote. Warren refers specifically to Honderich (2002).

In *The Oxford Handbook on Philosophy of Death* (2013), John Martin Fischer makes some useful distinctions considering immortality. He distinguishes between “actually living forever (but with the possibility of dying) and necessarily living forever (that is, living forever without the possibility of dying)” (Fischer 2013, 337). Fischer thus distinguishes between contingent and necessary immortality. He also notes that we can separate between an individual knowing and not knowing about one’s (necessary or contingent) immortality.

Fischer makes a further distinction between what he calls immortality involving ‘serial’ lives (such as Hindu and Buddhist believes) and non-serial lives as well as non-atomistic conceptions of immortality (and individual fusions with other individuals) and atomistic concepts of immortality. (Ibid.) Fischer understands immortality mostly as bodily immortality, which is also my approach in this thesis. He notes that in the case of bodily immortality it is usually assumed that the body stays in some specific condition, for example a healthy 40-year-old’s condition, instead of deteriorating. This is a typical way of thinking in contemporary bioethics.

In her book *Aging, Death, and Human Longevity* (2003), Christine Overall defines immortality as “the absence of any permanent end to individual personal life and as the unending and eternal persistence of individual awareness, perception, thought, emotion, and activity through infinite temporal duration” (Overall 2003, 124-125). Just like Overall, most philosophers approach death and immortality in relation to personal experience. In moral philosophy, mere biological existence does not seem to fulfill the criteria of immortality we are interested in: for death or the absence of it to have meaning for us, we need to be able to experience it.

There are some species that seem to have the capability to live on and on, even eternally. Of course an individual organism faces some kind of a cause of death sooner or later. However, the existence of such species reveals that some organisms have a chance of so called ‘biological immortality’ (similar to what Fischer would call contingent immortality). There are views that claim that death has been introduced by evolution and has not always been a necessary part of biological organisms’ life.¹⁶

¹⁶ For further literature on the biology of aging, see for example Rose, Michael (2004). *Biological Immortality. In The Scientific Conquest of Death. Essays on Infinite Lifespans*, edited by Immortality Institute, Libros En

This can be a useful starting point for many scientific studies. The reason why we should not get overly excited, or terrified depending on our view, about this in terms of human longevity is that biological immortality is found in species that are not as complex and do not have a high level of consciousness like humans, such as *Turritopsis Nutricula*, a type of an amoeba.

Let us go back to the definitions of immortality that Fischer makes. Some of the types of immortality that Fischer describes can be criticized of not being immortality in the first place. If we accept the view that immortality means not being mortal, then every option that includes (the possibility of) mortality seems not to be immortality by definition. As this is the case, I think it is also useful to distinguish between immortality and eternal life, because – theoretically – modest or biological “immortality” gives you the potential to live eternally but does not exclude the possibility of death occurring in one way or another.

Even if it's not clear that people are willing to be immortal or even live extremely long, philosophers often refer to immortality as a goal that people desire. They also bring up many questions and critical remarks. In his well-known piece *The Makropulos Case: Reflections on the Tedium of Immortality* (1973), Bernard Williams expresses the worry that immortality would be tediously boring. More than that, he explicitly expresses the view that we are better off being mortal. He writes: “Immortality, or a state without death, would be meaningless, I shall suggest; so, in a sense, death gives the meaning to life” (Williams 2013, 82). As he stresses, this does not mean that death could not, or should not, be considered as evil or that there could be no reasons to fear death. (Ibid.)

Most of the time people who don't share William's intuition of possibly getting bored come up with a list of interesting things that could fill the extremely long, or even eternal, life and make it feel worth living. Boredom occurs in different situations for different people. It does not make a lot of sense to say that in order not to be bored, we need to follow a certain path in life in terms of activities, relationships, career and so on. Someone might say that in order not to get bored, they would need to be professional athletes, have multiple romantic and sexual relationships, party and travel the world. Someone else might say that

Red, Rose, Michael (1991). *Evolutionary Biology of Aging*. Oxford University Press, New York. or Clark, William C. (1999). *A Means to an End: The Biological Basis of Aging and Death*. Oxford University Press, New York.

they would love to spend time with their partner and kids doing volunteer work in the local animal shelter, preferably staying in their small hometown. In general, we might say that for a person not to get bored, they need to be able to lead a life that is interesting and satisfying for *them*.

There is a further question to be raised about boredom, though. The question is whether a life needs to be interesting to be worth living. Or, in other words, whether a life needs to be interesting in order to be preferred to death. Boredom can be tedious and we all recognize the saying 'bored to death'. But no matter how bored we are, would we rather die than be bored? Aubrey de Grey has quoted Brian Kennedy, former CEO of the Buck Institute for Research on Aging, on boredom. Kennedy has said that if he had a choice between being bored at 150 and getting Alzheimer's at age 80, he chooses being bored.¹⁷ I assume that many people will find this answer intuitive.

Norwegian philosopher Lars Svendsen has written about boredom in his book, *A Philosophy of Boredom* (2005). Many authors have accepted William's view about immortality as boring as an argument against immortality, whether they agree with Williams or not. Boredom seems to be accepted as something bad among most philosophers writing about considerable life extension. In other words, most people focus on arguing that immortality (or a radically extended life) would not be boring instead of arguing that boredom is not necessarily a bad thing. Intuitively, as Kennedy's quote points out, boredom seems to be a minor inconvenience compared to death. However, this depends on how we define boredom.

Svendsen refers to a typology of boredom by Martin Doehlemann. It defines four different types of boredom:

"situative boredom, as when one is waiting for someone, is listening to a lecture or taking the train; the boredom of satiety, when one gets too much of the same thing and everything becomes banal; existential boredom, where the soul is without content and the world is in neutral; and creative boredom, which is not so much characterized by its content as its result: that one is forced to do something new. (Svendsen 2005, 41)"

¹⁷ <https://nationalpost.com/feature/do-you-really-want-to-live-foreverish>

The four types can overlap but are still clearly separate. Without going deeper in distinctions between different types of boredom, it seems clear that Williams is talking about some type of an existential boredom. Svendsen writes that boredom is related to death and even that “profound boredom is like some sort of death” (Svendsen 2005, 40). In the case of a kind of existential boredom, it becomes increasingly difficult to distinguish it from depression and unwillingness to live. However, boredom escapes a fixed definition and is perhaps not as clearly bad as it has been considered to be. Understood differently, occasional boredom can also be a catalyst and even a requirement for human creativity (creative boredom). But perhaps boredom in such cases is understood more as idleness instead than as existential pain or meaningfulness.

Despite obviously not being able to solve the problem here, I believe it's worthwhile to notice that boredom can be understood in many ways, all of which are not negative. There is also a further question related to how boredom comes about. Let us imagine an extremely long life that is intolerably boring at a time x , let's say around 500 years. We can then ask whether the intolerable boredom is an intrinsic property of a long life or is it rather something that we can prevent from emerging or only emerges at certain times. Surely we all have had boring periods in our lives, followed by less boring times. People go through tediously meaningless-feeling episodes of life (sometimes even resulting in attempts to end their own life) just to find themselves enjoying life later.

This chapter has provided a brief overview on the concept of immortality as a philosophical concept. It is by no means exhaustive nor meant as such. Immortality can be defined in numerous different ways. Fischer has distinguished between contingent (having the possibility of living forever. other things being equal) and necessary immortality (being immortal). Some species seem to have the theoretical possibility to live forever but they are still prone to die due to different reasons. The same would apply to humans were extremely long life possible. Many philosophers, among them Nagel and Hauskeller, have noticed that the questions related to the badness of death and willingness to live long seems to come to a paradox: people do not usually want to die at any given moment but they also do not want to live forever. I agree that this is a central philosophical problem related to considerable life extension. However, from the paradox it does not automatically follow that life extension would be ethically undesirable.

3. Connections to Thanatology

Thanatology is a field that studies death as a phenomenon from various academic perspectives. The name is derived from the Greek word *thanatos*, death. Thanatology is interdisciplinary by nature and concentrates on issues such as death and healthcare, palliative care, cultural manifestations of death, rituals of death and dying, loss and mourning, history of conceptions of death, funeral ceremonies, and so on. Philosophical questions related to death can be considered as a part of thanatology due to their topic. The philosophical issues vary from metaphysics of death to practical ethical and bioethical questions. Many research topics in thanatology are closely related to bioethics and especially medical ethics, since death often takes place in medical surroundings. The medical issues include ethics of euthanasia and assisted suicide, palliative care, care of the elderly and organ transplantation. These questions often consider the personal and/or professional choices of the medical staff, the patient, and the patient's loved ones. Other thanatology studies often focus on societal arrangements.

In this chapter, I will briefly present the main areas that I think combine my study and thanatology. For the sake of clarity, I will present the combining questions in three separate areas. I have adopted the division from the book *Kuoleman kulttuurit Suomessa (Cultures of Death in Finland)*¹⁸, an anthology of thanatology published in 2014, although I have taken to liberty to just borrow the three headlines instead of following the book's content otherwise in any strict sense. The three areas of focus are (1) the good death, (2) the communal death and (3) the irreversible death.¹⁹

3.1 The Good Death

What is a good death? This question is relevant in many fields besides philosophy, such as nursing sciences and medicine, especially in palliative and terminal care. The question is, obviously, closely related to the discussion on euthanasia and assisted suicide. For

¹⁸ I have used this anthology by Finnish experts as an example of a recent collection that gathers thanatology studies from different fields.

¹⁹ Hakola, Outi & Kivistö, Sari & Mäkinen, Virpi (2014). *Kuoleman kulttuurit Suomessa*. Gaudeamus, Helsinki. Translations are my own.

some, the very notion of a “good death” might seem like a paradox. Admittedly, we often see death as a bad thing. But by “good death” we actually often seem to refer to “good dying” than the actual badness of death. A good death for an elderly person, for example, may be one that is peaceful and painless and where support is available from medical personnel and loved ones. Yet this does not mean that it is a good thing as such for the person to die.

Let us say that we accept the notion of a good death as a death that is, briefly put, free of extreme physical and mental suffering, including a certain acceptance of the approaching death and the support of people around you. A further question is can such good death be brought about by helping someone to die. In this thesis, I have mainly excluded questions of euthanasia and assisted suicide from now on. This choice is made based on the complex nature of the discussion and the large number of existing professional publications on the issue. I will not aim to take a stance, for example, on the moral permissibility of assisted dying or questions related to autonomy considering end-of-life decisions.

Thanatological studies approach the goodness of death in various ways. Many studies concentrate on the experience of dying people or caretakers, aiming to understand what factors in a facility, for example, might alleviate the fear and anxiety caused by dying. There are also various studies that aim to understand death-related phenomena such as near death experiences. Although these types of experiences have often been labelled as pseudoscience, they attract a fair amount of academic interest and open new viewpoints to death and dying.

3.2 The Communal Death

Although we can never truly experience how another individual feels when they are dying, we experience a variety of emotions in when death takes place around us. Death is a communal phenomenon that is present in every culture, religion and time where there are human beings. Death is typically met with a variety of rituals.

It has often been said that death is a taboo in the Western societies. This is a common, although perhaps not a scientific, notion. In my own work, mostly in Finland, I have experienced otherwise. Even though death is a difficult and personal issue to approach and it is definitely not a topic for small talk (unless you happen to be in a thanatology conference), people seem to be quite willing to hear about death and to share their own views and experiences. What strikes me to be a bigger problem than death being a taboo for individual people is that there are no obvious rituals to handle loss and death, nor places to speak of death and the anxiety and mystery surrounding it.

Indeed, thanatology research suggests that, for example in the Finnish society, we have already moved beyond the biggest taboo period in some senses. For example, seeing the body of your loved one is considered to be good as it is a part of accepting death and the mourning process.²⁰ Yet there seems to be no return to the old traditions such as keeping the body of your loved one at home in an open casket and washing the body at home. When the rituals of death move from home to clinical environments, people are distanced from death in its most physical forms. The body, and in cases of illnesses the person before dying, is faced and taken care of by professionals.²¹

Thanatology researchers have pointed out that the so called social death that used to take place after the bereavement, can nowadays often take place before the actual death. For example, Kaarina Koski writes that in our society, medicine has overridden ritualization as our primary way to control death.²² Whereas in pre-industrial societies death is often sudden and requires psychological adaptation as well as rearranging life at home and work after death, in many affluent, industrialized societies the social death happens prior to death. The stage when an individual is considered (socially) not living but not yet completely dead, either, is also called the liminal stage. The extended periods of time that many people spend in hospices before they die gives the people close to the dying person time to get accustomed to the absence of the dying individual. It is not rare, despite of sorrow and loss that follows death, that death in such circumstances is described as a relief.

²⁰ Pajari 2014, 100.

²¹ Pajari 2014, 100.

²² Koski 2014, 108.

As a general notion one might say that during the 20th century, people in Finland and similar societies have been detached from the physicality of death and traditional rituals have lost some of their meaning and/or changed. But, as opposed to the development that peaked somewhere after WWII, the recent trend seems to be accepting death but in a rather abstract manner. As Ilona Pajari also suggests, nowadays the way we deal with death tends to be focused on how we deal with death and dying on a spiritual, psychological and emotional level.²³

3.3 The Irreversible Death

Regardless of how we perceive the social meaning of death, how we deal with emotional loss and what kind of rituals we follow, one thing does not change: we all die. From the medical point of view, death occurs when an individual's vital cardiovascular activity or brain function stops for good. It is not clear what death is. In medicine, clear indicators are needed to announce death but that does not mean that those indicators are not culture-dependent or changeable. In biology, death is generally seen more as a process than as a single event. Also, the focus is not only on the death of a human individual.

Biology does not give any simpler answer to what death is. In fact, quite the contrary. From the biological viewpoint, death is a process that has many stages and not a clear beginning and end. Death does not refer only to the death of humans and non-human animals but also to death of any biological organisms such as cells. Cell death takes place in the human body when we age or when we are affected by certain diseases. But it is also an ongoing process in a healthy, vital body. As biologist Seppo Vainio puts it, without death there would be no life.²⁴ Biology research is essential in terms of understanding senescence and, perhaps, for manipulating the aging process. It also helps to understand the functioning of the cells and might enable regenerating them in a way that could enable considerable life extension in the future.

²³ Pajari 2014, 122.

²⁴ Vainio 2014, 188.

When an individual organism dies in nature, it gives life to others as the body is consumed by other animals, insects and bacteria. This also happens after a burial, although in many countries and cultures most dead bodies are cremated rather than buried in a casket. There is some beauty in thinking that a physical body continues its journey in another physical (although unconscious) form by literally giving life to other species. However, many people believe that there is a lot more in life after death. This usually means believing to the afterlife in the sense that the person's awareness (soul, spirit) remains untouched. The most common view of resurrection is some kind of a variation of the immortality of the soul in this sense. In some cases, such as in the case of some Jewish movements, a belief in physical resurrection has been adopted.²⁵

Thanatology is an interdisciplinary field but it can provide valuable insights to philosophical questions related to considerable life extension. Thanatological research can help in pointing out crucial ethical problems that are faced by physicians, nurses, decision-makers and other professionals. Thanatology can also help philosophers to understand the cultural and personal challenges related to death and dying. Perhaps the most valuable lessons that one might learn, as a philosophy researcher, from working with professionals from other fields is that death is not only an abstract phenomenon but an ever present element in our culture and beliefs as well as a personal experience. Death and dying are experienced differently by each person. Yet thinking about these things makes all of us vulnerable, insecure and thoughtful and may evoke painful or agonizing memories. Thus, these matters deserve to be treated with respect and a high sensitivity to people's real life experiences.

²⁵ See for example Ketola 2014, 167.

4. Connections to Bioethics

This chapter is an overview on what is the relation of the ethical discussion on life extension to a more general bioethical discussion. The question is not easy to answer, since bioethics is a vast field and can be defined in numerous ways. In this part, I will look at five different themes that are some of the main connections between considerable life extension and bioethical discussion. These are: *theory and practice*, *human enhancement*, *population issues*, *humans and non-humans* and *issues related to just distribution*.

Bioethical questions are related to healthcare, medicine, and policy-making. Careful bioethical research helps developing and implementing considerable life extension interventions that serve to improve the length and quality of individual lives without compromising the general interests of the current societies or future generations. Of course, a possible outcome of ethical evaluation is also that considerable life extension is not desirable in the first place. The topic is not only of philosophical interest but also of societal importance.

4.1 Theory and Practice

Bioethics is both a part of philosophy and an interdisciplinary discipline. I will focus on philosophical bioethics as a subfield of ethics, not as an interdisciplinary field covering nursing sciences, cultural studies, and so on. However, it is not as simple as that to separate between bioethics as solution-seeking method for practical ethical problems and bioethics as a theoretical tool. Most of the time, in fact, it seems to be something in between. This is both a blessing and a curse, so to speak, for bioethics. John Arras uses the term *mid-level theorizing* in relation to bioethics.²⁶ The nature of such theory is to concentrate on a practical ethical problem without necessarily relying heavily on a moral background theory. This makes such theorizing suitable for practical ethicists

²⁶ Arras, John, "Theory and Bioethics". *The Stanford Encyclopedia of Philosophy* (Summer 2013 Edition), Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/archives/sum2013/entries/theory-bioethics/>.

(bioethicists), especially when dealing with societal issues that require quick response from, for example, academics, decision-makers or healthcare professionals.

As Arras writes, “this kind of theorizing is both unavoidable and indispensable in a field like bioethics, and it has done much to clarify and advance often heretofore muddled public debates; but it need not claim allegiance to any particular denomination of high moral theory” (Ibid.).

For philosophy researchers, one of the obvious challenges of bioethical decision-making is the same as its strength; the possibility to reason without a solid moral background theory or without knowledge in the field of philosophy. However, most political decision-making is made based on very little expectations of philosophical competence. Decisions are mostly made by people who have no professional knowledge in philosophy or no time to look into a complete moral theory. This is true, as Arras says, for people such as healthcare professionals, academics or decision-makers. (Ibid.) In addition, decisions about resource distribution, life-threatening situations, new technologies, legislative changes and other issues are typically made under very strict schedules, political pressure and often also under the public eye. Based on this, I think mid-level theorizing is also a viable approach to decision-making regarding (potential) medical solutions, technologies or policies related to considerable life extension

As Dien Ho puts it, “the gap between theories and application exists because ethical theories often make competing recommendations and we do not know which theory we ought to use” (Ho 2015, 289-296). A quite traditional way of ethics education is to provide an overview on different ethical theories (utilitarianism, deontology, and so on). For medical professionals, for example, to make a decision about ethics would require a quite fundamental understanding of different ethical theories and how to apply them. Simply being aware of existing moral theories might not make it easier to navigate toward a solution. This is especially true in everyday clinical decision-making. In addition, making ethical decisions can be even more challenging to others than, say, medical doctors or other professionals who have had some training in ethics. Nevertheless, people everywhere need to make decisions considering their health and quality of life without being particularly prepared for them.

Ho introduces the Default Principle (DP). According to DP, a person is permitted to perform action they wish to in the absence of compelling reasons not to perform it. Although the principle has some limitations, it is appealing in its capability to provide ethical solutions without diving too deep in ethical background theories. It relies heavily on logical reasoning and requires some shared beliefs but as Ho says, the beliefs can be quite simple, such as the belief that we should act in a way that does not cause more suffering in the world.

To be able to negotiate about ethical issues without using exhaustive ethical theories is necessary in teaching and applying clinical ethics and other types of practical ethics. I believe it is necessary in many cases considering considerable life extension, since many life-extending medical decisions are, and will be, made in clinical surroundings and an extremely long life will most likely be a result of multiple decisions regarding treatment, preventative measures and technologies.

4.2 Human Enhancement

Based on philosophical publications during the past decade or so, the most obvious common ground for the ethics of life extension and bioethics in general is the discussion on *human enhancement*. Human enhancement refers to, briefly put, the effort of enhancing human capabilities beyond average or “normal” levels. Mainly because of this, enhancement has often been opposed with treatment. Unlike medical care, enhancement aims beyond perceiving normal level of functioning. As I write in one of my articles, “Is Considerable Life Extension an Enhancement?”, I do not believe that the logical connection between enhancement and considerable life extension is mandatory, although numerous philosophers, such as Harris, Savulescu and Bostrom, have discussed life extension in the realm of enhancement.

As the enhancement debate is full of disagreements about the definition of central concepts (such as enhancement itself) it is not useful to discuss life extension in the context of human enhancement if it is not necessary. Quite contrary, the enhancement debate becomes an unnecessary philosophical burden at times. In other words, while I

definitely recognize the value of the topics discussed within the enhancement debate, I'm doubtful whether the context of enhancement is necessary in the case of considerable life extension.

4.3 Population Issues

One of the most common worries people bring up while discussing life extension is some kind of a problem related to population issues. As the world is already overpopulated, how are we going to survive if people start to live beyond 150, even for hundreds or thousands of years? There is also a worry about the faith of future generations. Are we allowed to extend our own life at the price of consuming valuable, scarce natural resources? When there is simply no room for everyone, is it not right to give more people the chance to simply *live* instead of giving a few people the chance to live for hundreds of years? Many of these questions stem from views that are anthropocentric by nature. If we consider the best interest of non-human nature, it is not at all clear that we have a right to extend our life that seems to inevitably abuse non-human nature.²⁷

There are a few suggestions to answer this critique. One possible approach is simply to question the empirical factors and thus the basic premise of the critique. Even though there would surely be a temporarily peak in the number of human beings on Earth, we do not actually know how, exactly, life extension would affect our reproductive mechanisms or other things. Perhaps people who lived to 1500 would reproduce accordingly, having children at the average age of 300 instead of 30. This way, we would create less of a burden for the environment. Some philosophers have also considered the possibility of rationing reproduction in order to avoid extreme population growth. Or, perhaps, longevity would be conditional: if you are willing to have children, you should limit the length of your own life or vice versa.

Although the before mentioned suggestions seem logical, they are hardly appealing in real life. Despite the fact that China, for one, has managed to keep population growth somewhat under control by limiting the number of children, a law of limiting reproduction

²⁷ See chapter 4.4 for further discussion on non-human beings and life extension.

would hardly pass without severe resistance in many countries. Contemporary liberal democracies are built on the ideal of personal freedom and individuality and are often not ready to accept limitation of these values that are considered fundamental. On the other hand, in communities where the culture holds a big family in high value, the number of children might be a matter of honor and even a measure for success in life, womanhood or fatherhood, and so on. There are still many areas in the world, where contraception is conceived as too private to talk about, or even as a sin. Obviously, birth control is an issue related to religious views, which, in itself, makes it a controversial topic for public discussion. The limitation in reproducing, or an effort to force people to use contraception, could be seen by some as a violation of their basic religious or moral rights.

The problem of overpopulation has been named by John K. Davis, for one, as the 'Malthusian objection' after Robert Malthus's famous theory of Malthusian catastrophe.²⁸ Davis argues that despite being a valid and severe worry, the Malthusian objection is not, in itself, a good enough reason to object development of considerable life extension. Gustaf Arrhenius has provided a more technical approach on the population issue by comparing replacement and life extension in the context of population ethics.²⁹

4.4 Humans and Non-Humans

There exists a surprisingly small amount of literature around the topic of considerable life extension and environmental philosophy.³⁰ Even worries about overpopulation are mostly centered around the possible effects on human wellbeing. The fact that ethical discussion is centered around *human* life extension is not surprising given the anthropocentric nature of our worldview in general. Human life extension is considered morally more valuable than extending the lives of non-human beings (which, biologically, would probably be at least as possible as extending human lives). Whether this is because most philosophers

²⁸ Malthus, Thomas (1998 edition). *An Essay on the Principle of Population*. Electronic Scholarly Publishing Project. Originally published in 1798.

²⁹ "Life Extension versus Replacement", in Ruud ter Meulen, Julian Savulescu, Guy Kahane (eds.) *Enhancing Human Capacities*, Wiley- Blackwell, 2010.

³⁰ Another tradition that seems to be absent in the discussion is that of feminist philosophy and most authors are men. I thank Markku Oksanen for pointing this out specifically. Unfortunately, this is also a more general issue that is true of many fields of bioethics and philosophy in general.

think that humans have intrinsic moral value that others do not have or that humans have that moral value based on some specific capacity, such as high cognitive skills, it's hard to tell. Anthropocentrism is a typical approach in ethics in general but considering the severe possible consequences of considerable life extension to the environment and non-human beings, it would be important to maintain this perspective in the discussion. Since environmental concerns have gained more and more attention in politics and public discussion, it is likely that the environmental issues related to life extension will be more carefully taken into account in the future.

I believe that non-human animals have moral value and they should be treated respectively.³¹ But even if one disagrees about the moral value of non-human beings, the comparison between humans and non-humans raises an interesting issue related to considerable life extension. If we believe that life extension should be available only for humans, why is that? Perhaps it is because we believe that humans, unlike most animals, are capable of appreciating the alleged benefits of a long life just as we are able to appreciate healthcare and technology in general. More precisely, we have self-awareness that allows us to appreciate the prospects of staying alive until 500 compared to 50 (although clearly not all humans appreciate the idea of living extremely long).

A cat, for example, can be content every day for a 500 years if it manages to get its needs satisfied. A content cat who lived to see 500 might be happier at each moment than a human living to 500. However, most non-human animals do not have the capacity to grasp their own mortality, make plans for the future or fear for it. It feels peculiar to think that the cat would be more entitled to a long life than me. Perhaps this is due to human capacity of fearing death and, on the other hand, loving life and being able to have expectations for the future.

Humans seem to have a (at least almost) unique capacity to experience meaning in their life, which seems to me to hold more value than joy or happiness. Although the life of a cat has moral value and external meaning, it is not meaningful for the cat itself in the same

³¹ There is no space to argue for this view here but I have defended this view since I wrote my Master's Thesis titled *The Moral Value of Non-Human Beings in Mary Midgley's Philosophy* (Eläinten ja keinotekoisesti muokattujen olentojen moraalinen arvo Mary Midgley'n filosofiassa, Master's Thesis in Practical Philosophy, Unit of Philosophy, University of Turku, 2011).

way that my life is meaningful to me. One could say that extending life is a good thing since it allows the extension of meaningful existence for individuals who experience and appreciate this meaningfulness, which would exclude at least most non-human beings. This intuitive idea also seems to suggest that life extension is the most (or only) morally valuable when it can be appreciated by the individual whose life is extended.

4.5 Issues Related to Just Distribution

Philosophers do not agree on the ethical desirability of pursuing considerable life extension. Even if they did, many find it controversial that life extension would likely be available only for some. At worse, some suggest, this could lead into a situation where a population of ‘mortals’ would exist alongside a population of ‘immortals’ (Larry Temkin and Leon Kass, for example, have used this terminology). The inequality in this situation is clear. It is simply not just to have a population with a possibility to live forever and a population with no such opportunity at hand. But despite the logical validity of the worry, it is not very realistic if we take it literally. Even if we manage to increase the average life expectancy even by thousands of years, it is still not comparable to actual immortality.

However, using the term “immortals” does not necessarily refer to literal immortality (but I have argued elsewhere that the terminology can be confusing and personally I would avoid using it).³² The fact that life extension can be separated from immortality does not erase the problem of inequality. Think about two populations, A and B. Among A, the average life expectancy is 90 years. Among group B, the average life expectancy is 140 years. A 50 year difference in average life expectancy is big and seems to promote inequality. However, the difference is not actually so much bigger than the inequalities that are present in our world currently (this kind of situation has also been called a *longevity gap*). But this is not an argument for developing life extension technologies without worries about equality. Rather, it is an alarming reminder of the blatant inequalities currently present in our global community.

³² See Rantanen Rosa (2012). “Considerable Life Extension versus Immortality.” *Nordicum-Mediterraneum* 2.

It is still quite common to make comparisons between the so called first world countries and third world countries, rich and poor countries or Western countries and Global South. For example, India, Brazil and China are among the wealthiest countries in the world (based on GDP). Yet there are also millions of people suffering from extreme poverty in these societies and severe human rights violations and organized crime activities occur constantly. Also in the European Union and in the United States, many (groups of) people live in poverty and lack basic rights. In the globalizing world, the difference between a rich person and poor person is painfully clear. However, this does not necessarily apply to the difference between rich and poor countries, which is why we should avoid misleading, oversimplifying terminology. That is to say, we need to be cautious when talking about distribution of medical solutions - such as considerable life extension - in different areas, since big differences often exist between different groups of people in a rather small area rather than between geographically distant groups.

In bioethics, the question of novelty is never too far. As we noticed, there are several worries related to considerable life extension and just distribution. But are they anything new compared to issues related to other medical solutions or technologies? Yes and no. No, because issues of distributional justice have been explored in the context of numerous new technologies. Yes, because no other technological possibility tickles our imagination and touches upon the questions of immortality, death and good life in the same way. Yes, because life is a fundamental thing, more so than anything else: discussing any kind of treatments or enhancements is futile if a person does not have life.

5. On the Definition of Considerable Life Extension

In this chapter, I will explain what I mean by considerable life extension. There are, of course many ways to extend life. In this thesis, I concentrate on the means of medical technologies, whether existing or hypothetical technologies. New and emerging technologies include such methods as stem cell therapies, gene modification, telomere manipulation, nanotechnologies and so on. However, since a considerable extension of our life is not, at least until this day, possible, I will not define the technologies in question too strictly. I take considerable life extension to mean living for anything between 150 and 1000 years, which would require a radical change in the ways we can manipulate the aging process.

Within the ethical debate, there are different terms used for extending life. I chose to use 'considerable life extension', since it can refer to different types of life extension. So far there is no consistent terminology around the issue so the terms used vary quite a bit regardless of people seemingly discussing the same thing. Sometimes people talk about radical life extension, lifespan extension, slowing down aging or the possibility of immortality or eternal life. I will take a brief look into the definitions of aging, life expectancy and lifespan and then move on to briefly discuss some prominent developments in medical technology.

5.1 Aging

The biological field specialized in the research of aging is called biogerontology. From a biological point of view, considerable life extension is connected to the concept of senescence. Senescence is the biological process of aging: it refers to the deterioration and eventual death of cells. When an individual deteriorates biologically, death will eventually follow due death of cells. That's why extending human *life expectancy* and human *lifespan* are two different things.³³ Lifespan extension requires a change in the biological process that has been part of our species for hundreds, or thousands of years.

³³ I will elaborate more on the concepts of life expectancy and lifespan in chapter 5.2.

Whether it can happen without using disruptive new technologies is not sure, but new medical technologies can definitely be used to (try to) speed up the process.

One of the most prominent and well-known supporters of abolishing aging is Aubrey de Grey, who has used slogans such as “aging kills” in order to encourage people to fight aging. Although his theories are highly speculative, he has a solid background in science and his way of thinking has gained a growing number of followers.³⁴ In the field of bioethics, philosophers such as Nick Bostrom have argued strongly for recognizing aging as bad.³⁵

Philosophically, it is important to separate between aging and growing old. Even though living beings and inanimate objects gets older with each passing moment, they do not necessarily *age*. Let us imagine that my life could be extended considerably: I might stop aging at 45 but still live to be 700 years *old*.

Culturally we attach different attributes to old age than we do to other stages of life (childhood - youth - adulthood). We might think that elderly people are wise and respectable, for example. Abolishing aging would not only change our biology, but it would also mean significant changes in our culture. Leon Kass (2003), for one, has argued that we should maintain the ‘natural’ human life cycle instead of trying to get rid of old age. Kass’s thinking represents a worry about people ‘playing God’ and intervening with the ‘natural’ ways of life.

That being said, since people in many countries currently live much longer than a century ago and have more time and money, the ideal of old age has already shifted toward a more productive, active and creative period of life. Currently many cultures tend to admire youth and it seems that this admiration often translates into enthusiasm about anti-aging solutions. This applies to what we think of as desirable in terms of appearance and activities as well as in terms of societal solutions.

³⁴ To learn more about De Grey’s views, see for example De Grey, Aubrey & Rae, Michael (eds.) (2007). *Ending Aging: The Rejuvenation Breakthroughs That Could Reverse Human Aging in Our Lifetime*. New York: St. Martin’s Press.

³⁵ He does so for example in his ‘fable’, see Bostrom, Nick (2005). “The fable of the dragon tyrant”. *Journal of Medical Ethics* 31, 273-277.

Aging is generally not considered as something desirable in Western countries. Michael Hauskeller has made an interesting observation regarding the badness of aging and death. According to him, death is not necessarily an evil and aging is something that helps us accept death or prepare for it. Thus he concludes that “ageing is only bad when it does not lead to death” and that stopping aging is not a moral imperative as some others have claimed (Hauskeller 2011, 30). In his 2002 book *Vanhuuden ylistys*³⁶, Timo Airaksinen seeks to praise and explore old age. As he notes, old age has often been neglected in society as an interesting topic, since it is nothing to look forward to or a stage of life that you can ever look back to. According to Airaksinen, countries like Finland live in denial of old age and death, since nothing protects us from it. (Airaksinen 2002, 135.)

Based on the current bioethical and societal discussion, it seems to me that old age is actually a bigger taboo than death. As noted in thesis and elsewhere, philosophy of death and death studies have experienced a kind of a revival during the past decades. Many people in secular, Western countries might lack the space or the means to talk about death in the traditional sense but many seem to be eager to discuss it when given the chance. Death and mourning are practised in new ways, for example online.³⁷ Old age, on the other hand, is barely discussed and when it is, it is seen as a cost for the society (healthcare, retirement plans, hospices) or as something to change (active, youthful old age) or defeat (consider De Grey and other trans- or posthumanist thinkers). Whereas death is dramatic, aging is deterioration.

Perhaps Hauskeller is right and aging is not a bad thing, since old age prepares us for the approaching death. As many philosophers have noted, death without aging seems to be a tragedy: consider a death of a child or a death of an adult in a tragic accident. This is a challenge for supporters of abolishing aging: how can we learn to come to terms with the fact that almost every death is tragic and sudden? However, supporters of abolishing aging, such as De Grey, might well say that every death *is* a tragedy since aging is comparable to other terminal illnesses.

³⁶ Engl. *The Praise of Old Age*

³⁷ See for example Haverinen, Anna (2014). *Memoria virtualis - death and mourning rituals in online environments*. University of Turku.

Interestingly, in his recent talk³⁸, De Grey has stated that his institute (SENS) does not work for longevity. This is a noteworthy statement someone who is constantly labeled by the media, and by many philosophers as well, as some kind of an ambassador for biological immortality. De Grey says that he is seen as a kind of a prophet of immortality, although he doesn't "work for longevity, let alone immortality." He also states that "longevity is a side effect of health" and that although death is sad, he thinks that the "suffering before death is more important". "We are just doing medicine", he adds. (Ibid.)

Even though De Grey is not a philosopher, I think his words have a huge significance in the ethical debate, since he is someone who is constantly referred to in the ethical debate as a supporter of longevity.³⁹ Rather, he is aiming to abolish aging, that admittedly comes with a lot of suffering, especially when people live longer and longer with aging-related diseases (healthy life expectancy is not increasing at the same pace as life expectancy). De Grey also states that despite being sympathetic to many transhumanist ideas, he doesn't think there is a strong link between his work and transhumanism and that he doesn't like to be called a transhumanist. He notes that transhumanism and the search for biological immortality are much easier to argue against than his actual goal of fighting aging and aging-related suffering. (Ibid.) De Grey's view seems to support the idea of the likelihood of life extension being a "side product" of medical and technological development and the possibility of humans ending up considerably long whether we want it or not.⁴⁰ This possibility has also been recognized by John Harris, for one. (Harris 2007, 64.)

5.2 Life Expectancy and Lifespan

Life expectancy and lifespan refer to different things. Whereas life expectancy is an estimate of the length of life that is left for a person at a certain time in certain

³⁸ De Grey, Aubrey (2018). "Rejuvenation biotechnology: Will "age" soon cease to mean "aging"?. A talk filmed in Effective Altruism Global 2019 in San Francisco, US. URL: https://www.youtube.com/watch?v=YgkA9D_cKnE

³⁹ Obviously, it is a valid question whether he has done much to actively resist this view of himself but I will not go further into the politics of that.

⁴⁰ See Rantanen, Rosa (2014). "Is Considerable Life Extension an Enhancement?". *Global Bioethics* 25, 2; 103 - 113, p. 110.

surroundings, lifespan refers to the expected length of life of a whole species. For example, the maximum lifespan of humans is around 120. Unlike life expectancy, lifespan has not increased rapidly in the past few hundred years. Instead, more people are living to get closer to the maximum lifespan of our species. This means that more people grow old and die from aging-related causes.

According to the World Bank's statistics, in 2017 the average life expectancy in Finland was 81 years (which was also the average in EU) whereas in Chad, one of the countries with the lowest life expectancy, it was 53. The global average life expectancy in 2017 was 72 years whereas in 1960 it was barely 53. In 47 years, the global life expectancy increased 19 years. The past century must have seen one of the most radical changes in human life expectancy in history. If development were to continue at this rate (let's say, for clarity, that the life expectancy would increase 20 years each 50 years), the global average life expectancy would be around 90 in 50 years, around 110 in a hundred years and around 130 in a 150 years from now.

This vision for the near c future might not be too far off, since the maximum lifespan is around 120 years. Yet at the moment it seems unlikely that life expectancy would continue to grow after reaching the maximum human lifespan. The increase in life expectancy will not be exponential unless we hack the secret of biological aging. On the other hand, the development of technology *is* usually exponential, which would support the likelihood of developing scientific solutions that enable manipulating the aging process.

As was noted in the previous chapter (5.1), aging can be a useful and comforting part of accepting death. However, as Hauskeller (2011) notes, aging without death seems to be bad for us. The idea of a deteriorating body and mind without the prospect of death in sight is somewhat dystopian. Yet it has been reality in hospices around the world for decades. Whereas the average life expectancy has increased, the so called healthy life expectancy (HALE) has not increased accordingly. Let us use Finland as an example. According to the WHO statistics, HALE was about 10 years lower than the regular average life expectancy in 2016.⁴¹ What this means, in general, is that despite the increase in the average life expectancy, people live longer times suffering from diseases and ailments related to old

⁴¹ http://gamapserver.who.int/mapLibrary/Files/Maps/Global_HALE_2016.png (last visited 2019)

age. WHO and other instances have started to measure HALE in addition to life expectancy to be able to use quality of life, not just the number of years, as a measurement of well-being. Although health and quality of life do not correlate in all cases and are complex concepts, it is important to notice that adding years to life may not be as important as adding life to years, as the saying goes.

Many statistics about life expectancy express life expectancy at birth. So if the life expectancy for someone born in 1960 was 53, it does not mean that their life expectancy remained the same: as the politics and technology changed, the life expectancy may increase (or decrease, for that matter) notably.

Another basic aspect of statistics is that many statistics express the *average* (mean) life expectancy, whereas the *median* (the age that half of the population will reach) could be more accurate in many cases.⁴² A high child mortality rate, for example, lowers the average life expectancy in country X. Yet the people who live to adult age in the same country might have a good chance to live to see old age. For example, if child mortality drags the average life expectancy down to, say, 55 years, it does not mean that people who grow up to be adults in that country would die at age 55. Therefore the idea that hardly no one to old age in certain countries is definitely false. Similar reasoning applies when we look at life expectancy historically. In 1760, the life expectancy of Finnish people was around 35 years whereas currently it's around 80 years.⁴³ Even though Finland has been torn by war, famine and diseases in the past centuries, it does not mean that no one lived to old age.

When people talk enthusiastically about life extension in the context of transhumanism or enhancing humans, it may seem that we are looking at an ever-increasing life expectancy, since the trend has been that life expectancy keeps rising through the decades. It is important to remember that the fact that life expectancy has increased radically does not necessarily mean that it will *keep* rising. There has not been a change in our biological potential to live to 120 for centuries despite the increase in life expectancy. Life expectancy has increased mostly due to decrease in child mortality. Some important

⁴² In addition, you can look at the *mode* (the value that appears the most).

⁴³ Huttunen, Jussi (2018). *Elinikä ja elinajanodote. (Lifespan and life expectancy)*. Lääkärikirja Duodecim.

factors in increasing life expectancy have been things like basic hygiene and healthcare, education and decrease in conflicts and famine in many parts of the world.

Even though it is possible that high-tech solutions allow the manipulation of the aging process - and thus increase in the human *lifespan* -, this is not a clear continuation of the existing increase in life expectancy. There is a possibility to see the development of life expectancy so far and the possible future solutions for manipulating the lifespan as a continuum. However, I would argue that it is a false continuum. We are, in fact, talking about two different things when we are talking about the extension of life expectancy and the extension of human lifespan.

5.3 Science, Technology and Medicine

There are several technologies that can be used for considerable life extension. In fact, it is unlikely that one technology or solution alone will be the key to slow down aging. More likely, if considerable life extension will be possible, it will be due to a combination of different technologies, medical procedures, pharmaceuticals, or other solutions. Means that are often mentioned in relation to considerable life extension include nanotechnology, stem cell manipulation, gene manipulation, calorie restriction, telomere shortening, cryonics and mind uploading. In this thesis I focus on the possibility of extending the life of a person in their biological body.

Because science is developing rapidly as we speak, it is impossible to avoid the fact that any scientific data presented in this thesis will seem outdated in the future. At the moment, there are some indications of the possibility of successfully reversing the aging process on mice, for example. It is not clear how this could affect other species. One way to extend human life expectancy notably might be regenerative medicine, which “replaces or regenerates human cells, tissue, or organs to restore or establish normal function” (Mason and Dunhill 2008, 4). Although regenerative has huge potential, replacing dysfunctional parts of a human body does not seem to affect whether the body as a whole will enter senescence, in which case the process of aging as a whole is not affected.

As it may strike as surprising to some that I have not really considered the possibility of mind uploading in my articles, I will briefly explain my reasons for doing that. Mind uploading refers to a process of converting all the data from a human brain into digital information, for example by uploading it on a silicon chip, thus maintaining an individual's life in a digitized form. Among the early pioneers of this field is Ray Kurzweil who believes firmly in the possibility of singularity reached through technology.

It might well be possible to map out our brains and turn this into information that can be uploaded to a computer at some point in the future. Yet, in Michael Hauskeller's words, "even if we will manage to emulate a whole brain, we may still find that the hoped for effect, namely that the model actually gives rise to subjective awareness, will fail to appear" (Hauskeller 2012, 190). Assuming that we do not build a synthetic replica of a whole human body around the uploaded mind, can we really expect it to have the same type of consciousness as we currently do? Furthermore, it is unclear why we should assume that an uploaded mind shares our human experience when lacking the body that connects it to the surrounding world by touch, smell, taste, bodily functions, sexuality, temperature changes, and so on? It is also very unclear whether we can consider that – even in the case the information of my brain is successfully uploaded – the mind that would exist in a digitalized form would be the same person as I am or was.

As Hauskeller notes in his article, we have no guarantee that successfully uploading a human mind would result in conscious experience as we know it. So far, we have no way of knowing if this is true, and it is largely an empirical question. (Hauskeller 2012, 198.) The philosophical questions related to mind uploading are largely connected to considerations of philosophy of mind and artificial intelligence. They are big questions that philosophers have been trying to solve for decades and looking at them would be a project worth a whole other Doctoral Thesis. Even though the difficulty of the questions is, of course, not a sufficient reason for excluding mind uploading from my thesis, I consider the questions related to mind uploading to be of such a different nature than the questions related to medical technologies, including both of them would make it very difficult to create a coherent study. This, of course, is not to say that questions related to mind uploading would not be of great philosophical importance in other ways.

Cryonics means preserving an individual in cold temperature over a period of time, possibly enabling them to be revived later. Although cryonics has been used to preserve humans since the 1960's, its technical feasibility hasn't been proved and it remains expensive and problematic considering multiple ethical and legal issues. However, Ole Martin Moen has recently pointed out that there as long as it is only unlikely, not proven impossible, that cryonics will work, it can be considered a rational choice compared to the alternatives (cremation, burial). As he puts it,

“It might also be interesting to explore the potential psychological benefits of cryonics. For some, fear of death is a significant evil. With the prospect of being cryopreserved, facing death might feel less like being dragged to the execution chamber and more like embarking on a dangerous journey” (Moen 2015, 681).

I think this is true not only of cryonics but of many transhumanist or posthumanist models of thinking, since unknown future prospects provide a feeling of comfort when facing mortality. In fact, some transhumanist ideas of the future bear an astonishing similarity to religious images of paradise.

6. Guidelines for Decision-Making

In this final chapter of the introduction part, I make some suggestions for guidelines that can be useful for healthcare professionals, decision-makers, students and researchers in different areas. The tools provided in this chapter can be used by anyone interested in the topic. The purpose of the guidelines is to help the reader to navigate the ethical discussion related to considerable life extension. Using the table that is provided, anyone can situate themselves or a specific philosopher, for example, in the ethical field related to the discussion about considerable life extension. It also enables seeing different viewpoints in relation to each other in a relatively simple way and takes into consideration the difference between the first person approach and the third person approach.

6.1 The CLE Table

In order to make it easier to understand the ethical discussion about extended life, I have created a tool that I will from now on call the CLE (Considerable Life Extension) Table. The CLE Table is meant for mapping out and comparing ethical views about considerable life extension based on the ethical desirability of considerable life extension from both an individual's viewpoint (which I call the individual point of view) and from the society's viewpoint (which I call the social point of view). The views of specific philosophers that I have used as an example in this chapter are mostly the same that are presented in more detail in one of my articles titled Issues in the Ethical Debate on Considerable Life Extension. I will start by introducing each sector of the table (table 1).

	Individual point of view	Social point of view
Ethical obligation to promote CLE	It's an ethical obligation for me to pursue CLE	It's an ethical obligation for the society to pursue CLE
Ethical desirability of CLE	It's ethically desirable for me to pursue CLE	It's ethically desirable for the society to pursue CLE
Ethical acceptability of CLE	It's ethically acceptable for me to pursue CLE	It's ethically acceptable for the society to pursue CLE
Ethical undesirability of CLE	It's ethically undesirable for me to pursue CLE	It's ethically undesirable for me to pursue CLE
Ethical obligation to prohibit CLE	It's ethically prohibited for me to pursue CLE	It's ethically prohibited for the society to pursue CLE

Table 1: The CLE Table explained.

The individual point of view refers to the beliefs and choices of an individual considering purely their own, personal interests. For example, I might want to live very long because I enjoy life and have in mind many things that I want to do before I die. The individual point of view includes existential and personal concerns that are not typically included in the social point of view. As Nagel puts it, it is much easier quite easy to accept that everyone will die someday (we are all humans, we all have a limited lifespan, it's part of the natural circle, and so on) but hard to grasp what it means that I will die (I do not understand what it means that I will no longer exist, I will not feel any pleasure or pain, I will not see my loved

ones, I'm scared, and so on). This is also why we tend to accept that people want to avoid dying and keep on living even though it does not always seem to be optimal for us as a species or as a society.

The social point of view refers to a society that makes choice considering all of its members. It is often a political decision-making process of a state but it can be also extended to cover other, smaller or larger scale communities. In moral philosophy, it is not always clear what kind of a group of people we are talking about when we are talking about collective responsibility. Environmental issues, population overgrowth and human rights, for example, are often considered to be a global issue. On the other hand, healthcare resources and legislation are often regulated on a national level. In the case of Finland, for example, decisions are made in municipal level, national level, EU level and on a global level together with other states. What is common in all of those cases and relevant for moral philosophy is that decisions are made based on the common good, not individual interests. It is possible to have different views about the ethical desirability of considerable life extension considering individual and social points of view. Singer (1991), for one, has stated that even though living extremely long would be desirable for an individual as such, it is not desirable for us as a human species all things considered.

It is important to distinguish between the society's moral values and the legal practises. What is legal is not necessarily morally right and what is illegal is not necessarily morally wrong, and vice versa. Thus if the social point of view is that there is an ethical obligation to pursue considerable life extension, it does not follow that the society could force its members to extend their life. However, a society can decide to use legislative power to enforce moral values, which is typically the nature of law. It is particularly important for decision-makers to have a clear understanding of their own moral values and the prevailing moral values in the society in order to execute politics and legislation that promotes those values.

In everyday life, a person rarely has individual preferences that are not related to their environment or people around them. The individual point of view is a useful tool in evaluating different philosophical stances. I will not define the views in detail outside of this context but I am aware that there are numerous different ways of understanding them, especially terms such as an ethics and society. Henry Sidgwick, for example, has stated

that “Ethics aims at determining what ought to be done by individuals, while politics aims at determining what the government of a state or political society ought to do and how it ought to be constituted” (Sidgwick 1907, 15). As he puts it, it is the task of the government “by laying down and enforcing laws, to regulate the outward conduct of the governed” (Sidgwick 1907, 16). I have no intention to criticize Sidgwick’s view but simply to state that there are multiple ways to understand the connection between the individual and the group, the “governed” and the society.

My view is that the individual point of view is each individual’s own ethical view and the social point of view is the view of ethical thinking of a group of a society. The challenge is that it is arguably very difficult to define the latter - in a way it does not exist since the society (community, group) is not an entity with a personal relation and emotions about its view. It is also not a sum of its members, since societies seek the best possible overall solution, not a solution that will perfectly fulfill the ethical preferences of each individual member.

Ethical obligation to promote CLE refers to a view that it is a personal (individual) or a common (social) strong ethical responsibility to act in a way that promotes considerable life extension for oneself (individual) or everyone (social). We can consider Nick Bostrom, for example, as a supporter of this obligation regarding both individual and social points of view. It is worth noticing that even though he sees it as a moral responsibility to support longevity, this responsibility does not necessarily equal forcing someone to live very long. It does not follow from the ethical obligation to promote considerable life extension that life extension can be forced on the members of the society. However, it is likely that if this ethical view is popular enough, it will eventually lead to legislation that pushes people towards a certain kind of behavior.

Ethical desirability of CLE refers to a more moderate view, according to which it is desirable to pursue considerable life extension. This means that an individual or a society is positive about life extension but does not push for a moral obligation to pursue it. As was mentioned before, Singer (1991), thinks that considerable life extension is desirable as such for the individual. Many authors, including Bostrom, Savulescu and Harris, view life extension as ethically desirable from the 3rd person perspective.

Ethical acceptability of CLE refers to a more moderate view, namely that an individual or a society is more neutral than positive about considerable life extension. The ethical acceptability and desirability are both included in believing that considerable life extension is an ethical obligation. Yet a person who accepts life extension can also at the same time believe that it is ethically undesirable. Believing that considerable life extension should be prohibited, on the other hand, collides with accepting it: I can't both accept and not accept something at the same time. The before mentioned reasoning applies within individual point of view and within the social point of view. However, as we have seen, a person can have different ideas about the status of the ethical desirability of considerable life extension in the two different approaches. To clarify, I cannot simultaneously believe that it is my personal obligation to both prohibit and promote considerable life extension. However, I can believe that it is my personal obligation to promote life extension (individual) but that I also accept that the society sees it undesirable (social).

Regardless of their own individual point of view, people can accept that others might find life extension desirable or undesirable. It seems that the view that sees considerable life extension as ethically desirable and the views that see it as undesirable, can easily coexist in a liberal society. As with any matter, the political and legislative process will have to define what direction is taken in the practices. This of course entails that the issue is seen as something that should or can be regulated by decision-makers. The view that sees considerable life extension as ethically acceptable faces more challenges with the extreme view, i.e. with the views that promoting or prohibiting life extension is an ethical obligation. However, the real test for the society is not the existence of varying moral views but rather a situation where extremely different ethical views collide in decision-making.

Ethical undesirability of CLE means that someone accepts considerable life extension but does not see it as desirable for themselves (individual) or the society (social). Walter Glannon has stated that "there are biological and moral reasons to carefully consider the implications of exploiting this [life extension] technology on a broad scale to extend the lives of people in the present and near future" (Glannon 2002, 339). Harris and Holm have named this view as "precautionary". (Harris and Holm, 2002, 355)

Ethical obligation to prohibit CLE is the belief that a person has an ethical obligation to act in a way that aims to prohibit considerable life extension. One reason for this might be, for

example, that a person sees life extension by medical means as “playing God” or as interfering in nature’s order. Leon Kass (2003) has argued against life extension both for individuals (individual) and societies (social). This also implies, from society’s point of view, that resources should not be directed to advancing the development and distribution of (possible) life extending methods.

I have now presented an overview on the different concepts in the table. I have mentioned a few philosophers by name, mostly in relation to my article “Issues in the Ethical Debate on Considerable Life Extension”. The table can be seen as a more sophisticated attempt to understand different views in relation to each other and as a more efficient ethical tool for decision-making. For the sake of clarity and providing an example, I have situated names of authors mentioned in the article in the table (Table 2).⁴⁴ This is by no means a complete picture of ethical discussion related to life extension, since it includes only a few names. According to this example, the table can be used to situate and views of other philosophers, or anyone, in it. This will help to clarify the discussion related to considerable life extension and review the different approaches in relation to each other. The table can also be used in mapping out one person’s, including one’s own, ethical view. This can be done simply by evaluating one’s own view in each sector.

⁴⁴ It might help the reader to use the article alongside this table.

	Individual point of view	Social point of view
Ethical obligation to promote CLE	Bostrom	Bostrom
Ethical desirability of CLE	Harris, Nagel	Harris
Ethical acceptability of CLE	Nagel, Harris, Singer, Davis	Nagel, Harris, Singer, Davis
Ethical undesirability of CLE	Kass, Callahan	Singer, Davis
Ethical obligation to prohibit CLE	Kass	Kass

Table 2: Assumed views of philosophers on CLE, based on the article “Issues in the Ethical Debate on Considerable Life Extension” (Rantanen 2013).

The table is a tool suitable for mapping out different ethical views related to considerable life extension. However, the table does not present a right way of thinking or a simple solution to ethical questions related to considerable life extension. It simply provides a tool to support understanding and critical evaluation of the ethical discussion.

There exists no single, objective way to place views in the table: the ethical views are often very complex and could possibly be situated in multiple different ways. Despite some limitations the table can be a useful tool for analyzing ethical discussions. It is useful for

decision-makers specifically since it does not provide an opinion on the matter but rather an overview based on which to work with.

Below you can find the table with empty sectors (Table 3), which can be used for mapping out one's own ethical view about considerable life extension and philosophical views about it.

	Individual point of view	Social point of view
Ethical obligation to promote CLE		
Ethical desirability of CLE		
Ethical acceptability of CLE		
Ethical undesirability of CLE		
Ethical obligation to prohibit CLE		

Table 3: The CLE Table.

7. Conclusion

There are arguments that prove that we should carefully consider the development and use of technological and medical means that might extend human life considerably. It does not seem to me that these arguments are powerful enough to prove that considerable life extension is a bad thing in general. People who want to extend their life might not be morally praiseworthy but, at least in a liberal society, a person's will to continue living seems to be a right that others are to respect. Denying someone this right would mean asking a person to give up something fundamental: a possibility to be alive.⁴⁵ Furthermore, in the future a long life might not be a result of an active choice but rather a consequence of medical care. To conclude, considerable life extension might not be morally desirable but it is morally *acceptable*.

I do not see myself as a proponent or opponent of life extension per se. It is somewhat unclear in what sense the terms proponent and opponent can be used, since considerable life extension can mean various things. It is not evident that there exists a unified discussion on the ethics of life extension.

The bioethical discussion related to life extension, independent of its unity, is currently dominated by Western (male) philosophers. It is safe to assume that their ideas of good life, meaning of death and purpose of life extension leave out a wide variety of approaches. This does not undermine the value of the discussion but it is relevant to keep in mind, especially when discussing moral values that are inseparable of people's everyday experience, beliefs and fears.

Most people at most times prefer a meaningful, good life over death. Yet we constantly run into a paradox that people do not want to live forever, either. However, living for 150, or even for a 1000 years is far from living eternally. There are numerous ways to define what good life is but it does not seem reasonable to say that only people who are living a good life would be entitled to longevity. What seems to be of importance is that life is meaningful to the individual whose life is extended.

⁴⁵ In here I'm assuming that we are talking about a healthy and meaningful way of being alive.

I believe that meaning can be experienced in a shorter life, as well, and that the quality of life is obviously more important than the quantity. A good and short life is better than a long and miserable one. However, it is unclear why a good *and* long life would not be better than a short and good one. There are reasons to be cautious about increasing human lifespan but they are contrasted with the very fundamental right of people to stay alive (to not die) if they so wish. It seems likely that if human lifespan will be increased, it will happen by manipulating the biological aging process. It can happen as a side product of aiming to cure aging-related diseases, in which case the increase in lifespan is not motivated by longevity itself. In this case, it is harder to find ethical arguments against life extension than in the case where human longevity or 'immortality' is the single goal.

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PART TWO: THE ORIGINAL ARTICLES

Summaries of the Articles

In this part, I will briefly present the main arguments of each original article. In order to avoid repetition, I have left out certain statements and statistical facts that have been already pointed out in the introduction. However, all the relevant facts and references can be found in the original articles. All of the articles can be found in the list of references.

I Considerable Life Extension versus Immortality

The paper titled 'Considerable Life Extension versus Immortality' (2012) discusses the difference between the concepts of considerable life extension and immortality. Since immortality can be understood as a maximum of life extension, many authors use it for referring to a lifespan that is considerably longer than our current one. Although rhetorically interesting and powerful, using the term immortality can create unnecessary misunderstandings in the ethical debate related to considerable life extension.

Metaphysical questions about immortality should be separated from arguments in practical bioethical discussion in a clearer manner that many authors have done. As the paper states, what is true of immortality is not necessarily true of a considerably extended human life.

Due to rapid medical and technological development, human life expectancy has been, and will be, increasing in a notably. It is tempting to start talking about immortality, although being able to extend the lives of lab animals or humans moderately does not equal immortality or the possibility of it.

There is an important distinction to be made between immortality and eternal life. Immortality refers to something abstract and almost certainly impossible if understood in biological terms. Immortality is often mentioned in a religious context or understood metaphorically. One can be immortal, say, through art or through their genes. But this is not what we are talking about when we are talking about the possibility of a single human

individual being immortal. Technically, a person could have the potential to live forever but this is not equal to being immune to death; it is still possible for that individual to get into an accident, suffer from an unexpected illness or an epidemic, commit suicide and so on. The aim of the paper is not to exclude the concept of immortality from the vocabulary from the ethical discussion on considerable life extension. Instead, the aim is to point out that 'literal' immortality as a concept should be distinguished from considerable life extension via means of medical technology.

In the article, I refer to texts from Leon Kass, John Harris and Larry Temkin as examples of using the word immortality. I do not claim that these authors would not understand the difference between immortality and life extension but simply that it is desirable to be more careful with the terminology. The reason for this is that unclear terminology can easily lead to misconceptions that affect the power of argumentation in specific cases. Consider an example. Leon Kass states that if we were immortal, we would not be able to enjoy the beauty and love in the way that we do now. Even though this may be a valid argument if we think about actually being immortal, it barely applies when talking about extended life. If we could live hundreds (or even thousands) of years, beauty or love would be unlikely to lose their meaning. Also, technologies that might enable considerable human life extension are not targeting mortality as such. Medical and technological solutions are mostly developed for alleviating age-related illnesses and ailments or to increase the lifespan of humans.

Some arguments about the ethical desirability of immortality also hold true of considerable life extension. Philosophical questions such as 'what happens if we live for centuries?' or 'could my personal identity remain the same over centuries?' are valuable for both thinking about immortality and thinking about extended life. This does not mean that there is necessarily a connection between the two (it also does not mean there could not be a connection).

II Considerable Life Extension and the Deprivation View

The paper 'Considerable Life Extension and the Deprivation View' (2012) is an examination of Thomas Nagel's so called deprivation view in the context of the ethical debate about considerable life extension. The deprivation view states that death deprives us of good things in life. The view, supported by Nagel and many others, is often seen as a counterargument to the so called Epicurean view that says that death is not bad. According to the Epicurean view, death is not to be feared since once we die, there will be no one to experience any pain or pleasure - including the 'nothingness' or 'being dead'. The main argument of the paper is that although Nagel's view is compatible with supporting life extension, it is not a normative claim that we should support considerable life extension, as for example Christine Overall (2003) has suggested.

It is intuitive for people to think that life is good. We tend to think that, in most circumstances, being alive is better than being dead and that dying in old age is better than dying young. Since life is good, more life is better. The deprivation view states that death deprives us of something good. Hence it is a bad thing to die and a good thing to stay alive. Nagel states that death is bad because it deprives us of life itself, not just of other good things that we might enjoy in our life currently or in the future. In fact, death deprives us of any future prospects.

Christine Overall (2003), for one, suggests that Nagel is a supporter of *prolongetivism*⁴⁶, the view that supports the extension of healthy and productive life. I argue that Nagel does not commit to supporting *prolongetivism* despite stating that life has intrinsic value. Nagel's view is compatible with *prolongetivism* but this does not mean that it is a normative claim. In other words, Nagel's view does not suggest that we should aim to extend human life as much as possible. Instead, he believes that death deprives us of life itself and thus death can be considered as a misfortune. As he puts it, death is the permanent end of our existence and experience as subjects. All the claims that Nagel is making are from a first person perspective and regarding an individual's incompetence to understand and accept

⁴⁶ Christine Overall (2003) uses the term *prolongetivism* to refer to views that support life extension. I use the term in my article in relation to Overall's view but I have excluded it elsewhere in the thesis simply to avoid operating with too many '-isms' that are not generally known and might confuse the reader.

the permanent end of ourselves. That's why the argument should not be directly applied to societal discussion on the ethics of life extension.

Nagel approaches death as a personal, subjective experience. It is intertwined with an individual's fear of death and ceasing to exist (he states that most of us would probably not distinguish between death and a permanent coma as an experience). Thus, like Nagel, many of us are likely to want to stay alive at any given moment instead of dying when given the choice. However, we do not make decisions purely based on metaphysical assumptions or an existential fear. I might be terrified of the idea of death and think that it is a bad thing and yet be willing to die, given that death seems to be unavoidable, that my death gives space for the next generation and that death is - logically speaking - nothing to be afraid of.

For these reasons, Nagel's view is compatible with prolongetivism but it is also compatible with opposite views. Because Nagel's view on death is influential in modern philosophy, it should be carefully examined before making more general claims on it in the wider philosophical or public discussion about considerable life extension. My paper aims to point out the importance of scrutinizing philosophical claims, including Nagel's view, about fundamental issues related to considerable life extension before accepting arguments based on certain interpretation of them.

III Issues in the Ethical Debate on Considerable Life Extension

"Issues in the Ethical Debate on Considerable Life Extension" (2013) is an overview on some of the ethical questions related to considerable life extension in bioethical discussion in the 1990's and early 2000's. More than aiming to make a specific claim, the paper is meant to clarify what are some of the main issues by influential ethicists such as Peter Singer, John Harris, Daniel Callahan and Walter Glannon. I present eight ethical issues. In conclusion, I argue that it is unclear whether there exists a unified ethical discussion on considerable life extension.

A simple reason for writing this article is similar to the reason behind the whole approach of this thesis work: there does not exist many overviews on the ethical debate in the form

of articles or books. It is important for anyone interested in the topic to gain a general idea of the relevant questions. To summarize, I will introduce a short description of each issue. The eight issues examined in the article are listed below.

(1) Is it morally desirable for an individual to live very long?

This issue (re)presents Nagel's well-known view on death. He says that dying is bad since it deprives of good things, namely life itself. Because of this, Nagel's view has been seen as supporting considerable life extension (although he does not write in the context of life extension) by e.g. Christine Overall. However, just because Nagel's view is compatible with supporting life extension, it is not a normative claim about it.

(2) Whose interests should guide research into aging?

Singer (1991) has written about whose interests should guide the research and development of possibly life extending solutions. He separates between three options: present individuals, future individuals and the human species as a whole. Singer clearly accepts the idea of pursuing a longer life from an individual's perspective but concludes that, all things considered, it is better to prioritize the interests of future individuals and thus not proceed with fast development of technologies that would extend life considerably.

(3) Which policy is more benevolent regarding life extension technologies?

Russell Blackford has argued against Singer's position by saying that developing life extending solutions would be the most benevolent thing to do. Blackford states that Singer's utilitarian view is too strict and that it is not our moral responsibility to prioritize the future individuals' interest over time.

(4) Should we try to defeat the biological process of aging?

Aubrey de Grey has stated that aging kills a lot of people and we should fight it as we fight other life threatening diseases. Many people do die of diseases caused by aging but it is not clear whether we should treat this as an anomaly or simply as part of life and the biology of our species. Somewhat unrelated to de Grey (he does not claim to be a

philosopher or talk in terms of human enhancement), if we accept that aging is a disease, it seems to be requiring treatment. This would place anti-aging solutions in the realm of treatments as opposed to human enhancements, in which they are often discussed.

(5) How should we regulate the scientific research on technologies that might lead to considerable life extension?

Some philosophers support a cautious approach on developing considerable life extension technologies despite not condemning life extension as morally undesirable. Walter Glannon, for one, raises the concern of what might be the social and environmental costs of developing the technologies: he calls for a careful risk assessment, especially in the field of gene manipulation. Harris and Holm have called Glannon's approach 'the precautionary view'. It seems that Glannon's requirement is not extreme and seems reasonable assuming he is just calling for a careful and responsible consideration of risks and benefits before developing new technologies.

(6) Should we reject life extending technologies because of the overpopulation problem?

John Davis (2005) has tackled what he calls the Malthusian objection, namely the view that developing considerable life extension technologies would lead to an unbearable overpopulation issue. Davis acknowledged this view as an important worry but states that it is not a sufficient reason to restrict the development and use of life extending solutions.

(7) Should we uphold the "natural human life cycle" instead of pursuing extreme longevity?

Leon Kass (2003) rejects both the desirability of an extremely long life for an individual as well as the societal consequences of considerable life extension. Kass emphasizes the importance of maintaining the 'natural human life cycle' and the possibility of continuity by having children. He also states that death brings meaning to life and the absence of death would take that meaning away.

(8) Is it morally acceptable to use technologies that extend life radically?

Daniel Callahan (2005) has a skeptical approach toward life extending technologies. He wishes that people would not accept the goal of extending human life considerably.

Simultaneously, he seems to accept research and development of life extending technologies, as he wishes to 'stigmatize' those technologies on a legal level. He expresses a moral judgement toward an individual aiming for considerable life extension and a society that aims to develop means for that but seems to appreciate individual freedom of choice above this ethical judgement.

At first sight, there exists a general theme of ethical acceptability of considerable life extension in philosophical discussion. However, the issues are diverse and multifaceted, varying from metaphysical questions (such as the meaning of life and death) to practical ones (such as fair distribution within a certain state's healthcare system). The ideas of what is meant by considerable or what is meant by life extending technologies, and in which level of realism these are understood, vary. Because of this, it is relevant to ask whether there actually exists a unified discussion on the ethics of considerable life extension. It is crucial to be careful and observant while analyzing discussion around the issue, since some arguments are not necessarily discussing with each other, even though it may seem like that at first.

IV Is Considerable Life Extension an Enhancement?

In the paper 'Is Considerable Life Extension an Enhancement?' (2014), I examine the role of the human enhancement discussion in relation to ethical debate about considerable life extension. Many authors, including Savulescu, Kahane, Sandberg, Bostrom, Harris and Holtug, have placed the discussion about life extension in the realm of human enhancement. My general claim in the article is that there is no necessity to discuss considerable life extension in primarily in this realm. It can be seen as a wider phenomenon that could also be classified as a preventive measure. It is widely accepted that resources in medicine and healthcare should mainly be targeted to treatment and prevention, whereas enhancements are considered something 'extra'. Whether future life extending measures are defined as enhancement or treatment can have a significant role in defining whether they should receive public funding and be a part of the basic health care system.

Typically, bioethicists separate between treatment and enhancement, Norman Daniels being one of the pioneers of this debate. Enhancement is something that increases human capacities above average level. Treatment aims to maintain our health on a level that is considered normal. The definitions are rough and have been discussed widely in bioethics. Concepts such as health, sick and normal are complicated and escape a simple definition. Despite some general agreements, there is no clear cut distinction between treatment and enhancement. Nor is it clear whether they should be considered as part of health care. In my view, it is possible - and in fact likely - that considerable life extension measures will be a combination of things, including different treatments and preventive measures.

Our current life expectancy is a result of rapid increase due to both social and political factors (gender equality and basic education, nutrition, sanitation) as well as basic healthcare and preventive measures. One example of an effective preventive measure are vaccinations that have been a major factor in decreasing child mortality and increasing the global life expectancy.

I do not claim that considerable life extension solutions could not be enhancements in some hypothetical cases. They could be enhancements, treatment and prevention all at

once. It is likely that human life expectancy continues to increase as a result of multiple political, social, medical and technological factors, just as it has done so far. In my view, even if we would see life extension as enhancement, it is different from other forms of enhancements, such as improving strength, speed or morality. Even though life can be extended, it cannot be multiplied as other enhancements: at any given moment, one either is alive or is not. This is a further reason to reconsider the use of the word enhancement.

Because of the fundamental nature of the question of considerable life extension, it should be carefully examined morally before moving on to discussions about distributing resources, and other more practical questions. We should search to answer questions such as is it intrinsically a good thing to live long, what is a good life and how should we define life extension. However, the question about enhancement is also of extreme importance, since scientific development happen rapidly and how we define potential considerable life extension measure may affect their social acceptability, the resources that are allocated for them and regulations been made by decision-makers.

V Book review: James Stacey Taylor (Ed.): The Metaphysics and Ethics of Death, with Juha Räikkä

This review of James Stacey Taylor's (ed.) book 'The Metaphysics and Ethics of Death' is written together with Professor Juha Räikkä (2014). The book is an overview of metaphysical and ethical discussion on issues related to philosophy of death.

Death has always been a natural part of philosophical discussion and Western Philosopher's arguments about death have been documented since Antiquity. During the past few decades, there seems to have been a kind of a renaissance of philosophy of death, as Taylor himself notes (Taylor 2014, 2). There has been a growing number of encyclopedias and other literature on death. The collection edited by Taylor brings together a bunch of well-established authors to reflect on issues around death focusing on both more traditional metaphysical questions as well as more contemporary bioethical issues.

While perhaps not groundbreaking, the book is a relevant overview to philosophical thanatology and definitely useful for studying the topic. The issue of euthanasia was left out because of the regrettable passing away of the intended author during the writing process. The theme of immortality does not have a notable part in the book. These facts result in a big part of traditional and contemporary philosophical views related to death being left out of the book.

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