

ARTIKKEL

THE IMAGE OF AGE

RETHINKING THE HUMAN END

By Johan Knudsen
Aardal & Jonas
Jervell Indregard



ILLUSTRATION: RAGNHILD AMMÅS



We have a certain image of age: what it is, and what it means for us. But what if we're wrong?

What is your vision of your own old age? Some, perhaps, seriously entertain the imagery of a young, beautiful corpse. But I imagine most people have some conception of their own old age – a garden, a cane, grandchildren, beach house on the Riviera, writing your memoirs, wearing purple, taking up painting – a strange combination of time, reckless abandon and an eye for the truly valuable little things in life. However, we all know that this period of life comes with its own drawbacks as well. The amount of suffering, frailty and dependence most of us will go through rises exponentially after we pass a certain age, and a familiar set of hindering weaknesses and life-threatening diseases creep up on us.

We place our hope in medicine to relieve us of the worst consequences of age-related diseases, thus the «war on cancer» as well as the explosion of research into Alzheimer's disease. And this hope is not misplaced; though we have no cure for any of them, the odds are better today than 20 or 50 years ago. But of course, there are inevitable limits as to what medicine can achieve. It is geared towards facilitating the human telos, enabling us to function properly, as far as possible, as human beings. To fulfill our potential. Or is it? The key question here is of course what «properly» denotes, what our «potential» actually consists in.

Now it might seem as if – we think that this is the standard way of looking at it – medicine enables us to function properly as human beings, to fulfill our telos, by tackling diseases, wounds etc., up until the natural point of aging where death is upon us, when our time has come. What we'll suggest is an inversion of this: What if, by effectively tackling the diseases and damages wreaked upon the body through medicine, we no longer encounter death, thus forcing a drastic reevaluation or dismissal of our idea of «functioning properly as a human being»?

This reevaluation is already underway. While procedures like in vitro fertilization and embryonic stem cell research are gnawing at the roots of the beginning of the teleological human lifespan – much to the dismay of Christians of the vulgar neo-Aristotelian ilk all over the world¹ – something is also beginning to take place at the other end of the line. The stirrings of a potentially much more revolutionary change in our self-conception, and in our lives. Up until now, though we might not be sure when and

how a human life starts anymore, we are still certain of its inevitable decline. But maybe not for much longer. And we're not talking about the freak-show pyrotechnics of plastic surgery. Rather, there is a chance that we will live to see technology able to postpone, perhaps indefinitely, the decline associated with aging. In plain terms: we might be able to become indefinitely old without «growing old». Or, as Aubrey De Grey says in his book, *Ending Aging*, «People alive today could live to be a thousand years old.» (De Grey 2007: back cover)

To really understand this (alternately, to see how this is not the rantings of a madman), we need to look closer at our understanding of the relation between aging, disease and death.

What is aging (and disease)?

By definition, aging is the process of growing old. You age from when you are conceived, and at some point this process becomes deteriorative to your health, leading some to define *biological* aging as a summary term for this set of processes that contribute to health deterioration and lead to death. Leonard Hayflick describes it as escalating loss of molecular fidelity, eventually exceeding our innate repair capacity, thus increasing vulnerability to pathology and death. There is no doubt that the regenerative potential of our bodies is expended with time, the repair systems are gradually weakened and overloaded. Does this mean that, essentially, biological aging can be considered as a disease? The renowned biogerontologist (a biologist studying the aging process) Cynthia Kenyon, said the following:

Some people say to me, 'Well, aging is a disease, isn't it, so you're really talking about treating a medical condition.' I think they're having fun with words because, by definition, a disease is something physical that happens to some, but not all.²

And this is of course true, we would normally only call something a disease if the (negative) physical change doesn't happen to everybody. Even so, it is hardly as simple as that, nor as silly to consider the relation between aging and disease, as she seems to imply. This can be illustrated by way of example. Take osteoporosis: this disease is caused by a physiological degenerative process that happens

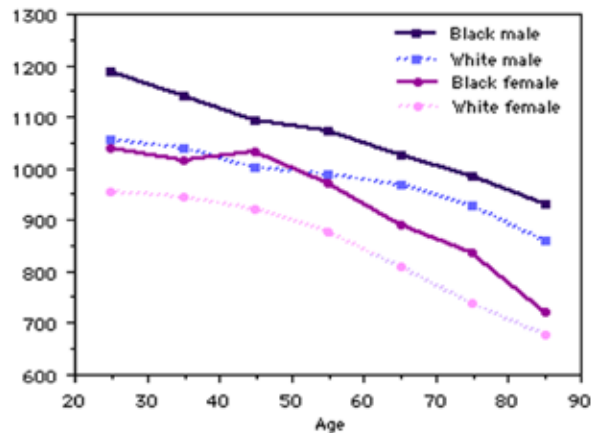
There doesn't seem to exist a real conceptual difference between aging and disease based on the properties of the physiological process – we have made a pragmatic distinction between the two as it wouldn't make sense to label everyone as sick.



to everyone after their mid-twenties, an imbalance between bone breakdown and bone formation. The breaking point, so to speak, when you are actually diagnosed with the disease, occurs when the bone mineral density is less than or equal to 2.5 standard deviations below that of a young adult reference population.

If you look at the data of average bone density compared to age, they show a clear trend; if we did not die of anything else, we would all develop osteoporosis. And there are in fact many diseases that have the same characteristic: given a long enough life, we would all eventually suffer from them. It is a common misconception that there is such a thing as «aging itself», different from the diseases inflicted upon you as you grow older. But the only candidate for such a thing is the other types of gradual damage building up in your body, the ones that haven't yet caused you any particular disease. You don't die simply «of old age», a study of the death causes of centenarians, people living longer than 100 years, concludes that congestive heart failure is the main killer amongst centenarians.³

The key realization is that when we are trying to prevent, cure or alleviate ailments such as cardiovascular disease – to prevent e.g. congestive heart failure – we are dealing with the effects of aging: biological aging itself, in the degenerative sense. There doesn't seem to exist a real conceptual difference between aging and disease based on the properties of the physiological process – we have made a pragmatic distinction between the two as it wouldn't make sense to label everyone as sick. This has probably played a part in causing people to view aging as something unavoidable, something inherently different from disease that's incurable – yet there are no sound suggestions as to what would make it either theoretically or practically impossible for us to remain youthful in the near future. There are, on the contrary, propositions that suggest how we could keep biological aging in check and why it would make sense to repair the damage from the «aging process», even regardless of aiming to extend the normal lifespan or not. Aubrey de Grey has proposed that biological aging consists of seven types of damage that can be described as either accumulating degenerative changes to existing bodily structures or accumulating harmful byproducts from metabolism, more specifically nuclear/mitochondrial mutation, cell loss, tissue stiffening, accumulating death resistant cells and extra-/intracellular molecules. What is the significance of this? People generally die of age-related diseases, in other words, diseases that you normally only get when you're old. The processes leading there might



The graph shows how the bone density of the hip decreases with age. The units are standardized bone density in (mg/cm²). The lines show the average values, and for each age, race and gender a range of values occurs in the ordinary population. Source: WHO, graphs from <http://courses.washington.edu/bonephys/opbmd.html#old>

be gradual, as in osteoporosis, or reach a sudden turning point of rapid decline. But by targeting these seven types of damage – figuring out how to regularly repair or remove them before they start affecting our health – we would also cure the host of age-related diseases that we spend most of our resources trying to repair the damage from today. We don't have to understand the entire functioning of the aging process as many biogerontologists are trying to do, aiming to change the way our metabolism functions to avoid the accumulation of damage in the first place. We don't have to deal with an evolutionary arms race, as is the case with viruses.⁴ We have to figure out ways to prevent or regularly remove seven specific types of damage, and then watch for new problems that might crop up given that we no longer die from the diseases associated with the seven first. Of course, this is an exceedingly difficult project. But given the enormous benefits it would have, the limited potential of the standard procedure (focusing on the diseases that result from the degenerative processes rather than these processes themselves), and the fact that proposals for how to go about it seem increasingly less like science fiction and more like scientific research programs, it is hard not to see it as a logical next step of medical research.

It is natural to entertain a certain prejudice when hearing about proposals to «postpone aging», even to end it. If philosophy is concerned with learning how to die properly, this can sound like the anti-philosophical gesture

par excellence. Defiance in the face of death and trust in technology is not exactly the staple diet of a proper human *phronesis*. Why this abnormal fear of dying? There is a long-standing tradition in philosophy, going back at least to Epicurus, of arguing against such a fear. In his famous *Letter to Menoeceus*, Epicurus states that death «is nothing to us, seeing that, when we are, death is not come, and, when death is come, we are not.» The conclusion to be drawn from this is that your death does not in any way *harm* you. Before you are dead, your future death does not harm you (as long as you rid yourself of your irrational fear of it, that is), and after you die, you no longer exist and are thus not harmed. There is a considerable amount of philosophical debate over the validity of this kind of argument, but for now, let's grant it. Of course, one's death could still harm *other* people, say, one's friends and relatives. The death of a young mother of three would of course be harmful to the family. But in this case, the issue is not so much a fear of death as a concern for the welfare of others. And indeed, many would consider death a small sacrifice for the sake of some higher goal or ideal, Socrates being just one prominent example. All these considerations point towards a similar view of how death fits into the bigger picture: death in itself is not an evil, rather it should be viewed in light of the bigger, more meaningful picture of the goods that we value *in* life. And this points us towards the human telos, the potential ingrained in a human life, within which death has an integral part to play.⁵ The desire for indefinite life extension; what is it except egoism, and a misplaced egoism at that, seeing how death does not actually harm us? A simple misunderstanding of what it is to be human?

As convincing as this line of thought is, it is crucial to notice one point. It does not actually apply to the case for life extension as put forward here. Avoidance of *death* is not really the crux. Rather, it is the prevention of *suffering* and *disease* that is the focus. The reversal of degenerative aging and the deaths associated with it is a positive side-effect, the result of the fact, described earlier, that once you reach a certain level of medicinal sophistication, as our biology remains a constant, aging and disease cannot be clearly separated. Indeed, if anything could be said to display a fear of death, it is the ordinary therapies of medicine today. If the pattern of treating the disease without treating the underlying degenerative process continues

and increases in ability, the result is that we will be able to survive in a state of decrepitude, on the brink of disease, for a longer period of time; simply in order to stave off death for as long as possible.

A sceptic might still say: but isn't there something twisted about this fear of growing old and weak? After all, experiencing weakness and suffering is a part of life too, and in trying to remove it, aren't you endorsing a cult of health and youth?

But at this point, it seems clear that the sceptic has unwillingly driven himself into a corner. The argument presented here sounds like an argument against medicine in general (probably not what he's trying to achieve) and comes awfully close to a full-blown Panglossianism.⁶ If what is natural is good, then the naturalistic fallacy isn't a fallacy, and the sociobiologists were right all along. And if one is to pick something natural that is also good, it seems reasonable to think that inevitable suffering and death is a strange choice.

A different aspect is how the prolongation of a normal human lifespan might *affect* us. A natural reaction to this prospect is to ask oneself «what it would be like», and whether one would experience it as a good thing. According to many, the answer might be no, and the reason seems to have something to do with what makes life *meaningful*. A refined version of such an argument can be found in an article by Bernard Williams, «The Makropulos Case: Reflections on the Tedium of Immortality». As he says right at the beginning of the article, «Immortality, or a state without death, would be meaningless, I shall suggest; so, in a sense, death gives the meaning to life.» (Williams 1973: 82)

This is due to his view on how our identities are formed, and what motivates us to live. According to Williams, «categorical desires» are the ones providing us with our will to live. These desires are not viewed as means to ends; rather they are the ends providing us with a sense of self and a meaning in life. A person wanting to die because of excruciating pain might want analgesics desperately – but only on the condition that he has to go on living at all. His desire for analgesics is clearly not something that provides him with a will to live, and thus this desire is not categorical. When contemplating suicide, only categorical desires can provide reasons to go on living – and most people are lucky enough to have plenty of them. Losing them

Defiance in the face of death and trust in technology is not exactly the staple diet of a proper human *phronesis*.



would throw us into meaninglessness and in that case we would in an important sense no longer be the person we were. On the basis of this account, Williams sees eternal life as a problem. The categorical desires would, faced with an indefinite amount of time, eventually grow stale, fade and cease to be the guiding and motivating desires they once were. The only option available for regaining a sense of purpose would be adopting new, different categorical desires – if possible – and this would be tantamount to death for the persons we once were. Before proceeding to a discussion of Williams' view, we want to emphasize the intuitive strength of his case. His claim is based on the claim that the categorical desires would fade away, little by little, gradually giving way to an overwhelming sense of boredom and ennui. But intuitively, it might seem as if even *knowing* that you had become immortal could occasion an immediate crisis of identity. Are not our categorical desires to an important extent fueled by the *carpe diem* spirit: to live life to the fullest while it is still there? This is perhaps a slightly different point from the one Williams is making; we will say a bit about it before returning to his argument.

In general, the arguments in the rest of this article will attempt to question the intuitions we apply when concluding that a life cut loose from the normal lifespan would be meaningless. First of all, the *carpe diem* argument. We actually believe that this consideration works in *our* favor. Quite simply, it does not look as if it would hurt to put the brakes on the increasingly hectic, short-sighted society of today. Would more long-term planning and commitment really be all that bad? A longer perspective based on a longer lifespan seems as if it should weaken «go before it's too late»-consumerism, and strengthen our motivation, and perhaps also our ability, to think ahead. Arguably, such an increased timeframe should make it easier for us to engage with some of the more demanding problems we face (the ecological crisis is but one obvious example here).

Similar considerations might be raised against Williams' argument. Let's first try to see more clearly how his picture of eternal life looks. A generalization of Williams' line of thought could be something like the following: We are finite creatures, with a finite potential, and in time that potential will be exhausted. Williams' conception of the extension of life is a «going on and on and on...» resulting

in a gradual withering away of spirit, a lived experience of Hegel's «bad infinity».⁷ But infinity need not be seen like the number series. Hegel of course provides his own alternative, and within mathematics, the concept of infinity is far from boring, in today's post-Cantorian environment. To bring the discussion back to an indefinitely, even infinitely, extended life; there is no longer (if there ever was) any good reason to assume that such a life must turn *monotonous*. According to Williams (who is describing a particular example of a woman forever «stuck» at the same age), «Her problem lay in having been at it for too long. Her trouble was it seems, boredom: a boredom connected with the fact that everything that could happen and make sense to one particular human being of 42 had already happened to her.» (Williams 1973: 90) This is neither theoretically nor practically compelling. If anything characterizes us – as persons, as creatures, as brains – it is our amazing *plasticity*.⁸

Perhaps Williams is right about the set of categorical desires that defines us as the persons that we in fact are. One might imagine a set of such categorical desires: an unconditional love for the closest of friends and relatives; a burning passion for political justice, coupled with an interest in the psychology of group dynamics; a strong penchant for games. Is there any reason to think that a person equipped with these desires would ever reach the point where «everything that could happen and make sense [...] had already happened»? Rather than being compared to the monotonous progression of the numerical series, the passing of time in the extended life of such a person should be given a more realistic comparison: the evolution of life, of culture, or of science. The constraints of biological evolution, the driving forces of culture, the goals and methods of science – these things may be relatively stable. But that does not imply that any of those fields will ever lose their capacity for real novelty. And the «objects» of desire for the imagined person above – games, politics, interpersonal relationships – seem to share that characteristic. There is a theoretical argument to be given here, in terms of complex systems theory. But for now, it seems to suffice to point out how we actually view the developments and dynamics of a personality. Imagine expanding the length of these processes. What possibilities would be opened by such a change? What kinds of previ-

Is there any reason to think that a person equipped with these desires would ever reach the point where «everything that could happen and make sense [...] had already happened»?

ously unthought-of projects and desires might we generate from out of our ordinary ones, given that the timescale would be indefinitely enlarged?

It is true that our intuitions are not particularly well suited to grasp how the evolution of complex systems work, or even *that* it works. An ontology of natural kinds and predetermined potentials just feels so much more *natural*. But we are learning. And it seems increasingly plausible that Williams' boredom must be replaced by fascination. There might even be a nugget for the spiritually inclined. Complexity theorist Stuart Kauffman, in his most recent book, *Reinventing the Sacred*, argues that the notion of the sacred should be redefined to apply to the seemingly boundless novelty emerging at different levels of complexity in the natural world. Given the profusion of such levels that we could then have access to, explore and embody, an indefinitely prolonged life seems in this case to come close to a working definition of Heaven.

That might be overstating the case. What we are clai-

ming is that, at the very least, if you are decisively against putting an end to aging then you had better come up with some good arguments. We do guide our medical research in light of our moral views – witness the reactions to human cloning, for instance – and so we might prevent anti-aging research from being done. Or if not that, then at least prevent the results from being put to use. But if we are right that regenerative, and in the last instance rejuvenating therapies seem crucial to progress in a broad range of treatments, then it will take quite a lot of moral oomph to prevent it from being done. And of course, according to the arguments presented here, there is no good reason for doing so, indeed quite the opposite is true. If our Aristotelian intuitions conflict with an opportunity to end the frailty, suffering and death of countless number of people, it seems prudent to take another good look at those intuitions.

NOTER

¹ See <http://norvegicus.no> for a poignant Norwegian example.

² <http://www.ucsf.edu/science-cafe/conversations/kenyon2/>

³ Dying of Old Age: An Examination of Death Certificates of Centenarians. *Abstr Acad Health Serv Res Health Policy Meet.* 2001; 18: 16.

⁴ Cancer is admittedly somewhat of a special case in this regard. For the special problems this creates, and the outline of a possible – though quite radical – solution, see *Ending Aging*, ch. 12.

⁵ An obvious part death seems to play is in the prevention of overpopulation. This is an example of a broader set of practical problems that will inevitably come up in a discussion of life extension. We do not intend to pursue such issues in this article, as they are on a somewhat different level. Generally, we will say that the overpopulation problem – like the problem of equality and other such society-level practical issues – is perplexing and offers no easy solutions. But that holds *irrespective of* progress in medicine. Malthus, Rawls et al. are perhaps relevant to many of the larger scale issues we face in modern society, but they cannot be used as an argument by fiat against such a multifaceted and revolutionary possibility as that of keeping biological aging in check.

⁶ That is, to defend the horrors of the actual world because it supposedly is the best of all possible worlds. For further info, see *Filosofisk supplement #2/2008*, 45.

⁷ As is recognized by Wayne M. Martin in his article «In Defense of Bad Infinity: A Fichtean Response to Hegel's *Differenzschrift*», p. 4. See <http://privatewww.essex.ac.uk/~wmartin/BadInfinity.pdf>

⁸ Philosopher Catherine Malabou has done fascinating work on this notion of plasticity; see for instance her books *What Should We Do With Our Brain?* and *The Future of Hegel: Plasticity, Temporality and Dialectic*.

LITTERATUR

De Grey, A. 2007 *Ending Aging*. New York: St. Martin's Press

Fjeld, A. (red.) «Panglossianisme», in *Filosofisk Supplement #2/2008: Vilje*.

Williams, B. 1973 «The Makropulos Case: Reflections on the Tedium of Immortality», in *Problems of the Self*. London: Cambridge University Press

Malabou, C. 2004. *The Future of Hegel: Plasticity, Temporality, and Dialectic*. New York: Routledge.

Malabou, C. 2008 *What Should We Do With Our Brain?* New York: Fordham University Press

Martin, W. M. «In Defense of Bad Infinity: A Fichtean Response to Hegel's *Differenzschrift*».

URL: <http://privatewww.essex.ac.uk/~wmartin/BadInfinity.pdf>

Kauffman, S.A. 2008. *Reinventing the Sacred: A New View of Science, Reason and Religion*. New York: Basic Books.

