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ORIGINAL RESEARCH

Artificial intelligence, superefficiency and the end of work: a humanistic perspective on meaning in life

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Abstract
How would it be assessed from an ethical point of view if human wage work were replaced by artificially intelligent systems (AI) in the course of an automation process? An answer to this question has been discussed above all under the aspects of individual well-being and social justice. Although these perspectives are important, in this article, we approach the question from a different perspective: that of leading a meaningful life, as understood in analytical ethics on the basis of the so-called meaning-in-life debate. Our thesis here is that a life without wage work loses specific sources of meaning, but can still be sufficiently meaningful in certain other ways. Our starting point is John Danaher's claim that ubiquitous automation inevitably leads to an achievement gap. Although we share this diagnosis, we reject his provocative solution according to which game-like virtual realities could be an adequate substitute source of meaning. Subsequently, we outline our own systematic alternative which we regard as a decidedly humanistic perspective. It focuses both on different kinds of social work and on rather passive forms of being related to meaningful contents. Finally, we go into the limits and unresolved points of our argumentation as part of an outlook, but we also try to defend its fundamental persuasiveness against a potential objection.

Keywords Artificial intelligence · Meaning in life · Post-work future · Virtual reality · Transhumanism · Rationality

1 Introduction

Let us assume for a moment that perhaps one of the most visionary predictions about artificial intelligence (AI) comes true: that automated AI systems, due to their superefficiency,[1] would take over much of human work, so that people would no longer have to make a living from labor but, for example, would instead receive a basic income. Would this be a desirable scenario? Would this make our lives more meaningful, for example because we would be freed from wage work? Or would we, on the contrary, suffer an irreparable loss of meaning? In this article, we argue for cautious optimism. We believe that, in certain circumstances, life without work can actually be meaningful, although our view of how that might be the case differs from the commonly held views.

To argue for our theses, we proceed in the following steps. In the first step, we will explain some important prerequisites, in particular the central terms "work", "automation", "superefficiency" and "meaning". In the second step, we reconstruct the argumentative dialectic of the debate and explain our starting point. This will consist of analyzing and ultimately criticizing John Danaher's influential and provocative reflections on this topic. Danaher assumes—from our point of view, wrongly—that leading a meaningful life in a fully automated world is possible only in ways which appear to be more or less transhumanistic. In the third step, we outline our own alternative, which we regard as a decidedly humanistic perspective because the genuinely human way of life remains untouched. We claim that meaning can be fulfilled in a world without work. Furthermore, we see meaning as partly guaranteed by components that are mostly overlooked in the discussion, namely by the passive-receptive appropriation of meaningful achievements. Finally, in the fourth step, we will mention some of the limits of our own argumentation, and will indicate some ways to deal with them.

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[1] For a more detailed explanation of this term see Sect. 1.

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2 Some clarifications

This article questions whether or not we can live meaningful lives in a world in which most of our jobs have been automated. This is not a novel question. Moreover, it is placed in a now consolidated discourse that has already produced a number of systematically illuminating considerations. Nevertheless, the essential terms are not yet grounded in a common usage. Consequently, in this section, we would like to briefly explain the terms "work", "automation", "superefficiency" and "meaning", which are central to our argument.

The term "work" cannot be defined without pitfalls. Some advocate expansive definitions that include nearly all goal-directed activities, while others attach the term primarily to economic contexts.[2] For the purposes of this article, we will adopt this narrower, economic definition. Accordingly, we understand work as an activity in which the physical, cognitive or emotional abilities of an individual are used and for which the individual receives economic value.[3]

By "automation", we mean a specific way in which a work process is carried out. In concrete terms, an automated process can be understood as one that is not carried out by humans but by machines, supported by AI (among other things). Automation of work processes has been around since the Industrial Revolution.[4] The attractiveness of the specific replacement of human workers by AI is primarily based on a phenomenon that we would like to call "superefficiency" in the present context. This is understood by us as the superior performance of many AI systems, which includes the fact that they can carry out the required work steps in a much faster and more reliable manner than humans.[5] Unlike so-called superintelligence, whose real possibility as a future scenario is disputed and dismissed by some critics as rather unrealistic science fiction, superefficiency is a real characteristic of AI systems that already exists in many areas today. To recognize its actual existence, it is not even necessary to agree to the thesis that superefficient performance is an expression of genuine intelligence at all.

Some even argue that the superiority of AI systems will inevitably encourage full automation of the world of work, so that in the future we will be faced with a world in which people will have no opportunity to work [2, 5, 13, 34]. However, others are more sceptical about this forecast [1]. We do not want to decide this empirical dispute about probabilities here, but we would like to hypothetically assume the case of extensive automation in order to fathom its philosophical implications. It seems to us that this can be enlightening, even if a comprehensive automation of all work processes might never occur in the future (e.g., because we will learn something from a normative point of view about which things are actually meaningful and which are not).

We now turn to the concept of "meaning". The term itself is currently experiencing a small renaissance in the so-called meaning-in-life debate. Therein, the metaethical and normative-ethical prerequisites for a meaningful life have been discussed for some time.[6] Two basic ideas are particularly important in this context. The first idea states that meaning represents an independent dimension of the good life, which must be distinguished from other dimensions (e.g., well-being and morality), at least in certain respects.[7] The second idea includes the thesis that meaningfulness is characterized by a specific object reference, namely the reference to the so-called Good, True, and Beautiful[8]. This does not necessarily imply an orientation towards platonic universals, but rather towards specific and objectively valuable practical goals. For example, meaningful activities are described as being found in the area of altruistic, scientific and artistic excellence. Examples that are frequently mentioned are cases such as the disinterested assistance to the needy (the good), the elaboration of a scientific theory (the true), or the creation of works of art (the beautiful) [23]. More concrete examples, that are given in the discourse and that, in our view, also speak in favor of this tripartite model are quite vast. The list includes the activities of persons such as Albert Einstein, Charles Darwin, Sigmund Freud (in the realm of the true), Martin Luther King Jr, Mother Teresa, Rosa Parks (in the realm of the good), Vincent van Gogh, Leo Tolstoi, Michaelangelo (in the realm of the beautiful).[9]

The academic encounter with the concept of meaningfulness is not only present in normative ethics but also can be observed in the context of the ethics of AI. In particular, authors such as John Danaher [7], Sven Nyholm [27] and Lilly Frank [25, 26] have dealt with the extent to which a meaningful life is possible and realizable in the face of AI

[2] For a discussion see Danaher [9, ch. 2].

[3] See also Frayne [14] for a similar definition.

[4] See Frey [15] for an outline of the different waves of automation.

[5] The examples of this are now legion. For some explanations of application examples from various areas of society, see the introductory sections in Heinrichs et al. [16].

[6] See the literature overviews in Metz [23] and Rüther [31, 32].

[7] The qualification "in certain respects" is important because most, while presuming that meaning and well-being or morality are not the same, hold that well-being or morality has at least some bearing on meaning. For many protagonists, meaning and well-being plus morality do not exist side by side but are in an axiological relationship. See also the ways in which this relationship can be designed, in Rüther/Muders [29] and Kipke/Rüther [19].

[8] See for the trias and its explanation Metz [21].

[9] It is worth mentioning that the demanding lifestyles of those examples are not seen as the only or even best way to gain meaning. Rather they are seen as clear cut instances of meaningfulness which can be used in order to test our intuitions on what makes a life meaningful.

systems in everyday life and AI robots in social relationships. Additionally, some recent publications can be identified on the topic "artificial intelligence and work". Furthermore, in this area in particular, there seems to be a lively interest in including the category of meaningfulness.[10] This may not be surprising because, after all, work seems to be a prima facie meaningful factor for many people. Moreover, most of us spend a great deal of time with this factor. It is therefore obvious that we should be interested in the question of whether and how the supposed "end of work" will affect the possibility of leading a meaningful life.

3 The challenge of the achievement gap

3.1 The original problem

But what exactly is the problem for meaningfulness in a post-work future? John Danaher presents a much-discussed answer in his book *Automation and Utopia* [9]. It has also been refined and adapted in several articles.[11] However, the core idea has remained the same and states: that in a world without work the achievements that represent a considerable source of meaning are missing. Following Gwen Bradford, Danaher understands a meaningful achievement to be a phenomenon that is essentially linked to three conditions[12]:

(1) Achievement does not refer to arbitrary but to objectively valuable states that were brought about by an action.
(2) The agent must have invested a not inconsiderable amount of effort in bringing about the states.
(3) The agent must have brought about the states voluntarily.

One can certainly argue about the details of the definition and make nuanced changes, which Danaher is aware of.[13] However, the general idea that becomes apparent from the three conditions is more important for our purposes, namely that, for Danaher, meaningful achievements are characterized on the one hand by actually produced, objectively valuable states (1), but on the other hand also by characteristics and attitudes of the agent (2) and (3). Both objective and subjective elements are relevant to be able to speak of meaningful achievements, which is why he and others also speak of a *hybrid* theory of meaning, in contrast to purely objective or purely subjective approaches.[14] But, how important are such achievements? According to Danaher, these are not merely marginal factors for meaningfulness. They are essential. He leaves the question of whether this is a necessary or perhaps the most important variable open. For him, it is obvious that a life without achievements contains significantly less meaning than one that includes achievements.[15]

With that provision in mind, one can already guess what the challenge to meaning is when human workers are replaced by superefficient AI systems. If we lived in a world without work, then "a skilled manufacturing worker or service worker […] had no longer […] access to any form of workplace achievement."[11] Accordingly, there is no need to differentiate whether and in what way subjective or objective elements of achievements are fulfilled.[16] Because there is no access to valuable work results, all components are equally obsolete. In short, for the people affected, there is what Danaher calls an "achievement gap". Because achievements (as explained above) also represent an essential element of leading a meaningful life for him, an achievement gap will cause a decrease in meaning, even if economic prosperity were to continue to be guaranteed (e.g., through an unconditional basic income).[17]

3.2 Expanding the challenge: the striving gap

The challenge of the achievement gap has already found some commentators in the literature.[18] Many begin with the

[10] Some recent monographs take into account the topic of creating meaning through work [9, 15, 17, 34, 40].

[11] See, for example, the original formulation by Danaher [8] and the subsequent considerations by Danaher [10], Danaher/Nyholm [11] and Danaher [12].

[12] See Bradford [3, 4].

[13] For such an attempt see Danaher/Nyholm [11, sec. 3].

[14] The hybrid theory of meaning is certainly one, if not the most dominant, theory in the meaning-in-life literature. The considerations by Susan Wolf represent the locus classicus [41–43]. For further reflections on the theory, see Nyholm/Campell [28]. See Rüther [31, sec. 2], and Rüther [32, sec. 2], for a further placement of the theory into the general theoretical landscape.

[15] He specifically writes in an article written together with Sven Nyholm: "Achievement is, then, one of the key elements of a meaningful life. It may not be the sine qua non of human flourishing, but it is at least true to say that a life without achievement is impoverished compared to a life with achievement." [11, p. 230].

[16] This would only be possible in the case of partial automation, for which differentiation of the different elements of achievements might be more helpful. For an attempt to paint a more nuanced picture in a scenario of partial automation see Danaher/Nyholm [11, sec. 4] and also see Smids/Nyholm/Berkers [36].

[17] Ex hypothesi, we do assume here that some political solution for this way of covering the basic material needs of all citizens is, in principle, possible. However, this does not mean that also every form of social struggle and political conflict concerning the distribution of machine produced wealth would also come to an end (see [1]). For people may still tend to perceive a guaranteed basic income as a form of scarcity they want to overcome. For the suggestion to emphasize this point we would like to thank an anonymous reviewer.

[18] See, for example, the reactions of Tigard [39] and Scripter [35] and the further elaboration of the problem in Danaher [12].

question of whether and how this challenge actually exists, and if so, then how to deal with it. An obvious line of criticism here is the questioning of the consequentialist premise according to which achievements are understood, among other things, as objectively valuable *outputs* that are produced by the agent (see criterion 1 above). However, are such outcomes of actions the most significant sources of meaning? Or, are other variables more important? These critical questions are asked (for example) by proponents of a deontological theory of meaning, which focuses less on real achievements and more on intentions to act based on objective values.[19] The basic idea of the criticism is this: If it can be shown that real outputs are not relevant to the meaning at all, then a possible achievement gap that arises is not big deal because other variables (e.g., deontologically characterizable variables) are more important or even decisive for a meaningful life.

In fact, we do not believe that the problem can be solved that easily. This can be illustrated by considering the structure of deontological theories of meaning. In their more plausible formulations, these will contain a rationality condition that provides a criterion for *which* intentions are meaning conferring and which are not. This can be well illustrated with the stone-rolling Sisyphus, whose activity is often classified as the epitome of meaningless activity. This is usually explained by the fact that rolling up the rock does not produce any objectively valuable action result.[20] In our view, however, the activity is pointless for the *additional* reason that—in the light of the experience of the rock rolling down again and again—the intention to place the rock on the mountain becomes irrational at a certain point in the repetition. It no longer fits in a coherent way into the network of accumulated experiences and beliefs of the actor supported by them. Or to put it in simpler terms: a meaningful intention must have a realistic chance or possibility of reaching its aim, at least from the point of view of the person acting. In our opinion, such a rationality requirement represents a restrictive condition for intentions to act that give meaning, although the exact formulation would still have to be examined.[21] However, so far, this much seems to be clear—in a technical and economic environment in which the use of AI clearly causes systematic achievement gaps, for reasons analogous to the case of Sisyphus, the mere intention to actively contribute to workplace achievements is irrational and is, therefore, ruled out as a possible source of meaning. There might arise, as we can call it, a "striving gap". With the full automation of the world of work, we lose the opportunity to realize an essential component of leading a meaningful life: the formation of rational intentions aiming at bringing about objectively valuable results.[22]

At this point in the dialectic, there are, logically speaking, several possibilities to respond to the challenges of an imminent deficit of meaning. One could simply come to terms with the fact that there is such thing, be it given by an achievement or through a striving gap. Likewise, one could also downplay the challenge—and thus the actual impact of the loss of meaning. Or one could also question the assumptions on which the whole argument is based. We will take up and briefly discuss some of these possibilities in the last section of this article. In the following, we would first like to focus on Danaher's own answer because it is both particularly provocative and intended to provide the starting point for developing our own proposal.

4 Danaher's alternatives: cyborgization and the virtual world

As already explained, Danaher refers to the scenario of the "achievement gap" by assuming a consequentialist framework. He sees two ways out of this situation, namely either a) the technical fusion of humans and AI into the cyborg, which is intended to ensure that the individual can continue to remain productive in a meaningful way by becoming able to work as effective as an AI System; or b) the withdrawal of human activity into a virtual reality, which is characterized as a partly AI-generated "Utopia of Games".

4.1 Cyborgization

The first alternative will only be dealt with briefly here because it ultimately describes a transhumanistic scenario.[23] Therefore, it lies outside of the objective of this paper, which proposes a

[19] For a general characterization of deontology including a description of its representatives, see Metz [22, chap. 11], and Rüther [30, 32, sec. 4].

[20] Richard Taylor in particular made this interpretation popular in the debate about meaning [37, 38].

[21] As far as we know, there is no research on this in the debate about meaning-in-life. Therefore, it represents a desideratum which, in our view, should be pursued in further research.

[22] Just like the *achievement gap*, the *striving gap* is ultimately based on a causal gap that exists between the intended action and the production of the valuable output and that is filled by the intervening mode of action of the AI. There is only a certain conceptual architectural difference in the fact that in the case of the striving gap, the achievement gap and the general knowledge about it appear as a mediating element between this gap and the omission of possible rational intentions to act, in which the striving gap consists.

[23] Although there may not be very strict criteria for how many technical components a human must have integrated into their body in order to count as a cyborg, there might be some gray zones. Following considerations by David Gunkel, Danaher even discusses the possibility of a purely "conceptual" cyborg, in which a physically completely untouched human forms a novel system together with external devices that expand the natural mind of this human [9, p. 161–166].

decidedly humanistic solution to the problem. Danaher himself also considers the cyborg perspective to be unattractive, albeit mainly because it undermines the desirable liberation of humans from the dictates of employment.[24] There are also other understandable concerns, such as the medical safety of such a merger, the threat of enslavement through the technology used, and the change in moral values that could occur if parts of our bodies could easily be replaced by technical equivalents in the future [9, p. 193f., 208]. In addition, there is the reservation that the cyborg way of life is too far away from us culturally to represent an intelligible option for us, which of course in a certain sense also represents an objection to the transhumanistic character of cyborgization [9, p. 197f.].

4.2 The virtual worlds solution

The alternative that Danaher advocates envisages the withdrawal of humans into a "utopia of games" in which, according to Danaher, one can still thrive as a human and can find meaning. This should be done primarily through the active pursuit of virtual games and the broad development of elaborate skills in mastering those games in a virtual reality [9, p. 197f.]. This sounds as if Danaher proposes a further transhumanistic solution. For one could argue that relocating a species into a completely new environment (in our case: the environment of a mere virtual reality) will always amount to a change of the corresponding life-form. However, Danaher emphasizes that he does not necessarily understand the utopia of games as a computer-technically simulated reality but that conventional games such as chess or forms of sporting or other activities can also be included [9, p. 239–241]. More than that, a focus on game-like activities might to some appear to be a humanistic utopia par excellence.[25]

However, the proposal suffers from another point, namely that it does not really appear to be suitable for solving the previously diagnosed gaps in meaning. This becomes clear when considering Danaher's general definition of what characterizes such a virtual world of games. He names three conditions: the triviality condition (a), the knowledge condition (b) and the condition of technological agnosticism (c) [9, p. 229f.]:

> (a) It will focus on activities that are undertaken [...] for *trivial or relatively inconsequential stakes* [...] In other words, [...] that do not determine our continued survival, and do not contribute anything of great value to the world in terms of the Good, the True, and the Beautiful. [...].
> (b) It will concern itself with activities that are *known* by the participants in the world to be relatively trivial or inconsequential. [...]
> (c) It will be *technologically agnostic.* In other words, it will not depend on any particular technology for its instantiation. [...]

The third condition again explicitly states that a virtual reality need not be a computer-technically simulated world. This raises the question of whether it would not be more appropriate to speak of virtual relevance instead of virtual reality, which would then above all clearly express the triviality condition. However, our focus here should be on a different problem: namely, the problem that this triviality condition obviously implies that the achievement gap continues to exist within the virtual world of games and that, therefore, no meaningful fulfillment succeeds that meets the standards of the hybrid theory of meaning which Danaher himself favors.

The problem is further exacerbated by the knowledge condition because it implies that the fulfillment of meaning also cannot be guaranteed according to a deontological theory of meaning: if the triviality of the playful activity (i.e., its systematic decoupling from value-laden outputs) is generally known to those involved, then it (again, under pain of irrationality) cannot even tentatively be aimed at the production of objectively valuable things.

Danaher partly admits the problem, but presents it as if one only had to accept certain compromises in the fulfillment of meaning when withdrawing into the utopia of games:

> If we are to arrive at the utopia of games, we need to make our peace with the severance problem. [...] But we can do this safe in the knowledge that the other problems of automation [...] can be ameliorated through game playing. Games will be arenas in which human autonomy and agency can be nurtured and developed. They will provide opportunities for humans to think, plan, and decide; to cultivate moral virtues such as courage, generosity, and fair play, and to display ingenuity and creativity [9, p. 234].

This consideration does not seem very convincing because the advantages that are listed may contribute largely to human flourishing or well-being but they do not thereby already promote the fulfillment of meaning, which is a value dimension of the good life that is independent of flourishing and well-being. Unfortunately, this fact tends to be obscured in the book chapter in question by the fact that Danaher speaks there in a summarizing conjunctive form of the simultaneous promotion of flourishing *and* the fulfillment

[24] He specifically writes: "So the sad reality is that cyborgization is unlikely to get us out of the rut that we are in. It will simply delay the day that we need to consider the more radical possibility of a post-work future and, in the meantime, reinforce a negative culture of hyper-competitiveness in the labor market." [9, p. 193].

[25] For humanists like Schiller, games are an essential part of the conditio humana. He writes: "Man only plays where he is human in the full meaning of the word, and he is only fully human where he plays" (F. Schiller, Letter on the Aesthetic Education of Man).

of meaning. For example, when he explains, "that a world in which we play games is a world in which we can flourish and find meaning." [ibid.]

Nevertheless, it is important to clearly distinguish between the two aspects of existence, as Danaher actually does in Chapter 4 of his book [9, p. 89]. The problem is certainly not solved by the fact that Danaher, referring to considerations by Thomas Hurka, explains that important conditions for flourishing and the fulfillment of meaning are realized in games, such as the achievement of results on the path of particularly complex end-means relations, whereby the results would become featured achievements [9, p. 235f.]. Even if you read this passage in such a way that the realization of achievements is also a condition of fulfilling meaning, it is clear that it is only a necessary condition as long as the result achieved is not also objectively valuable.[26]

The problem can be illustrated in another way. Based on Bernard Suits, Danaher defines games in such a way that we achieve goals in them by overcoming artificially created obstacles (possibly created by the rules of the game), which then constitutes a special achievement [9, p. 231f.]. However, the assumption that this alone already confers meaning can be refuted by a thought experiment that contains a modification of the already mentioned Sisyphus example. Imagine that the gods had not condemned Sisyphus to roll his rock up the mountain for all eternity but had made it a requirement that the stone only will roll down the mountain a million times, but then finally after the millionth and first time will stay on top. With this arrangement, the fate of Sisyphus would now fit Danaher's definition of a game exactly, in that there would be an achievable goal and a built-in artificial obstacle, and a sizable one that only makes the achievement seem all the more daunting if Sisyphus perseveres. The reader may now ask whether this small thought-experimental modification actually transforms the activity of Sisyphus from the paradigmatic epitome of a meaningless activity into a meaningful activity. As should have already become clear, we have our doubts.

We therefore conclude that while Danaher gives good reasons why people could also thrive and flourish (in term of well-being) in a virtual world of games, he cannot make it plausible that there is a sufficient level of meaningful activities, at least not to the degree that this will be a convincing solution to the problem of the diagnosed gaps of meaning—the achievement gap, and the follow-up striving gap.[27]

5 Meaning in an automated world: a humanistic perspective

But how then can meaning still be possible after the end of work, in a scenario of a post-work future? In this section, we want to outline our own answer to this question, which neither includes the retreat into virtual worlds (like Danaher advocates) nor favors a fusion of humans with machines in a cyborg-like way (like some transhumanists advocate). In comparison, our suggestion moves on more conventional terrain and wants to see itself as a humanistic solution that continues to tie meaningfulness still to the triadic orientation towards the good, the true, and the beautiful. It is divided into a practical–political and philosophical–conceptual part.

5.1 Orientation towards the good: the expansion and redistribution of social professions

Social services are a classic candidate for creating meaning in the area of good as long as they include personal attention in the broadest sense (e.g., nursing and care for the elderly, childcare, therapy offers and teaching). But what happens to these professions as part of the automation wave? Our assumption is that they will remain genuine professional fields afterward because within these professions people cannot be adequately replaced by AI systems. In any case, this is true as long as it is not assumed that robots could one day possess consciousness, empathy and human emotions, for which there is currently no solid evidence.[28] On the

[26] In his later essay "In Defense of the Post-Work Future: Withdrawal and the Ludic Life" [10], Danaher speaks of the fact that non-trivial values such as friendship, creative action, authentic freedom or joy can be realized. However, he apparently still does not regard them as objective values of the meaningful dimension, but again merely as direct elements of human flourishing and well-being. In contrast, Danaher argues somewhat differently in his most recent text "Virtual Reality and the Meaning of Life" [12], where he explicitly counts some of the values mentioned (social relationships and excellent skills) among those objective values on which a meaningful life can be based in a virtual world of games.

[27] The only way that Danaher's theory can go some way to solving this problem is to see the complex human abilities cultivated in game contexts that contribute to its thriving as a specific form of *artistry* that as such at the same time embodies the value of *beauty*—similar to what applies to a ballet, for example. However, on the one hand, this would lead to a stronger interlocking of the dimensions of flourishing or well-being and the meaningful life than Danaher actually envisages as he, as already mentioned, tries to keep both dimensions separate. On the other hand, it would also lead to a certain one-sidedness when it comes to determining the meaningful elements. On this last point, see also the comments in the final section.

[28] In this context, one can distinguish a stronger from a weaker thesis. The stronger thesis, which falls within the area of the philosophy of mind, states that algorithmic systems, in contrast to biological brains, will in principle not be capable of that form of conscious experience, which is required for genuine empathic action, among other things [20]. The weaker thesis, which suffices for the purpose of our argument, merely states that there will be no sufficiently compelling evidence that such a conscious experience actually exists in the

one hand, this means that a comprehensive automation that would lead to gaps in meaning is not a realistic vision of the future anyway. On the other hand, this does not mean that a large part of today's employment could not be lost, with all the associated loss of meaning for those affected.

However, in a world that is superefficiently automated in all areas other than social services, there would presumably be such great social wealth that one could easily afford the additional expansion of social professional fields economically. Even if the need for social care is finite in principle, there is undoubtedly potential to expand such professional fields beyond what is usual today; and thus, for example, to increase the general quality standards in care for the sick and elderly, pre-school, school and adult education and therapeutic support offers of all kinds. It would be primarily a task of politics to bring about a restructuring of society that, first, puts these expanded occupational fields on an economically sound basis and, second, redistributes access to these occupations in such a way that all people are offered the opportunity to exercise such a profession within a part-time framework or to complete the necessary training. There are certainly various ways of implementing such a redistribution in political terms. One would be to make it possible for every citizen to work in this field for a limited time and for a fee. This activity could be meaningful because it clearly serves to promote good by helping people to be less lonely, less helpless, healthier and better and broader educated.

This scenario does not fully emancipate a majority of people from labor, which Danaher sees as a benefit of automation. However, the probable remaining time at work would still be very small compared to today and would correspond more closely to a so-called mini-job.[29] This therefore continues to raise the question of how the more extensive leisure time component should be structured. One could perhaps argue that people's need for meaningful activity could already be sufficiently satisfied by mini-jobs in the social or educational sector. However, it could still be necessary to also enable meaningful activities during leisure time. In particular, when the extensive leisure time component would be perceived by many people as similarly dull and empty as alienated forms of labor, in which no relevant contribution is made to objectively valuable outputs.

It is conceivable that this negative experience could be avoided by largely withdrawing into a game-like world that stimulates creativity and other skills, as Danaher assumes, so that the described mini-job solution could be supplemented by this option. However, we are not entirely convinced that the triviality of the game, if it occupies a large part of one's lifetime, would not be experienced as a loss in meaning. Furthermore, even if this danger did not exist, it would indisputably be the even better solution if it were also possible to realize meaningful activities within the free time. This is the reason why we want to put up a philosophical-conceptual strategy for discussion in the following section, which could provide a useful framework for this option.

5.2 Orientation towards the true and the beautiful: the passive components of meaning

Due to the aforementioned finitude of ethically relevant social services, the possibilities to devote oneself to meaningful social charity in one's free time are also limited. They would be even more limited by the last-described option of expanding social professions with mini-jobs.[30] Furthermore, it seems hard to imagine that the vast majority of people would engage in meaningful activities in the field of scientific knowledge or artistic production in their free time. It is true that the demanding educational requirements that have to be met for this could perhaps be better implemented across the population than today through an expanded range of adult education options, which could also be created through the mini-jobs described. However, problems of a dysfunctional overstretching would arise. On the one hand, the scientific community would increase in such a number that the reception side of science would falter. It is hard to see how anyone would be able to take note of all of the relevant research contributions in their field of interest. Consequently, this would undermine the practice of serious scientific truth-seeking. On the other hand, there would be an analogous disproportion between artistic productivity, which tends to be superfluous, and the available willingness to receive it, which would largely rob private artistic achievements of their audience.

From our point of view, this gives us reason to think about whether the exclusive fixation of the standard model on *active* engagement in meaningful activities is actually justified, or whether an expansion of the model to also include *passive* forms of meaning seeking could be plausible. According to such an expanded perspective, it could also be meaningful to behave in a receptive manner towards

Footnote 28 (continued)

AI case, so that it can be empirically assumed that precisely because of this uncertainty many people would not engage an AI-System as a care-giver.

[29] The name "Mini-Job" is coined in Germany to describe a form of marginal employment.

[30] One further source of meaning being realizable in one's free time, however, would be the work within the context of one's own family, especially the care for one's own children or one's closer elder relatives. This is the case because those activities can be placed within the realm of the good. In this way, they are similar to the professional social and pedagogical work within the employment structure of social mini-jobs. We would like to thank an anonymous reviewer for pressing us on this point.

scientific knowledge and works of art, in the form of an understanding and comprehension of the knowledge and creations of others. In the analytical meaning-in-life debate, this notion has been rejected by a number of prominent figures. For example, Susan Wolf sees the mere "smothering" of works of art as insufficient to generate meaning. However, this polemic could be hasty, and even misguided in substance.[31] In our view, there are several reasons for this. First, it seems to correspond to our pre-philosophical intuitions that understanding and comprehension of science and art (e.g., in concentrated visits to classical museums or concerts, in studying a scientific subject or in enjoying reading great novels). This becomes particularly clear in the case of studying because we usually ascribe not only an instrumental value to it but already experience a kind of meaning in the receptive orientation towards scientific truth. In addition, most people would intuitively judge that the understanding and comprehension of creative works in art and science is at least more of a meaningful activity than doing trivial things in the virtual world of games.[32] Second, the over-emphasis on active human striving is a relatively one-sided intellectual heritage of modern Western culture and Protestant ethics, and therefore possibly requires a certain corrective within the theory of meaning. Here the focus on ancient ideas such as the Aristotelian idea of the *vita contemplative* can possibly help to widen the scope of theoretical options. Third, and finally, there are of course different degrees of activity and passivity. Thus, there is no such thing as purely passive understanding because every act of understanding in the case of science and art is an active cognitive activity, which of course is particularly evident in the study example already mentioned. Understanding a scholarly theory can require considerable active effort, and truly comprehending the beauty or grandeur of a symphony or an important painting also goes far beyond mere passive "lust".

These three considerations make it appear to be plausible for us to think that a meaningful orientation towards the true and beautiful also lies in the understanding and examination of scientific knowledge and artistic works. We therefore recommend to expand the standard model of meaning with a passive-receptive component.

Of course, the outlined possible extension of the standard model of the hybrid theory of meaning remains speculative up to a certain point, and still requires a more careful and deeper philosophical justification than can be provided here. However, on the basis of this expanded model, there are generally good prospects that in an automated world will still be enough potential for leading a meaningful life. We can take social mini-jobs, which allow us to work towards the good, but we can also strive towards the true and the beautiful, namely in a passive-receptive form. In this pluralistic outlook, we see a promising humanistic solution to the problem of finding meaning in a post-work future.

It is finally worth emphasizing at this point, that some people may be less gifted and less interested than other people in performing care giving or pedagogical social interaction and that some people usually are not so much interested in the reception of science and art. It is, thus, a consequence of our proposal that in a post-work future these people will not be able to experience meaning to quite the same degree as the rest of the citizens do. This consequence is just an implication of the objective element of the hybrid standard model of a meaningful life we subscribe to and according to which meaning is not just constituted by those things people subjectively tend to find meaningful. However, our aim here has been to sketch out a general perspective for meaningful life in a post-work future and not to give already a solution to the more specific problem of a fully egalitarian access to meaning. Nevertheless, the last consideration supplies an additional reason why pedagogical work is promoting the objective value of the good. For a good education can also enable people to develop interests in different kinds of arts and scientific research. Educational work, thus, is a specific source of meaning also by opening up access to meaningful experiences to other people and thereby also promoting a more equal access to meaning within society.[33]

6 Concluding remarks

In this article, we explored the question of how we can find meaning in a post-work world. Our answer relies on a critique of John Danaher's utopia of games and tries to stick to the humanistic idea, namely to the idea that we do not have

[31] This opposing position can also be found in the meaning-in-life literature. It is represented, for example, by Joe Mintoff, who writes: "We can be attached to any given object—and in particular the so-called 'higher' things—more intimately through knowing it than through acting upon it." [24, p. 78]. However, Mintoff associates this characterization not only with an appreciation of the receptive side, but also with a privileging of the true and the beautiful over the good. As will become clear below, we do not strive for the latter, so that we would like to explicitly distance ourselves from him in this respect, although we share his appreciation of the passive reception of meaningful creations.

[32] This does not preclude the possibility that a game-like activity could become a serious source of meaning, for example if the game is enjoyed by spectators and a wider public, as in the case of soccer or tennis. It is noteworthy, though, that in those cases the source of meaning would be external to the game itself and consist in the utility of the joyful experiences on the part of the spectators. Thanks to an anonymous reviewer for this further elaboration.

[33] For some critical remarks motivating us to add this last paragraph we would like to thank an anonymous reviewer.

to alter our human lifeform in an extensive way and also can keep up our orientation towards common ideals, such as working towards the good, the true and the beautiful.

Our proposal still has some shortcomings, which include the following two that we cannot deal with extensively but at least want to briefly comment on. First, we assumed that certain professional fields, especially in the meaning conferring area of the good, cannot be automated, so that the possibility of mini-jobs in these areas can be considered. This assumption is based on a substantial thesis from the philosophy of mind, namely that AI systems cannot develop consciousness and consequently also no genuine empathy. This assumption needs to be further elaborated, especially in view of some forecasts that even the altruistic and philanthropic professions are not immune to the automation of superefficient systems.[34] Second, we have adopted without further critical discussion the premise of the hybrid standard model of a meaningful life according to which meaning conferring objective value is to be found in the three spheres of the true, the good, and the beautiful. We take this premise to be intuitively appealing, but a further elaboration of our argumentation would have to try to figure out, whether this trias is really exhaustive, and if so, due to which underlying more general principle.[35] Third, the receptive side of finding meaning in the realm of the true and beautiful was emphasized and opposed to the active striving towards meaningful aims. Here, we have to more precisely clarify what axiological status reception has in contrast to active production—whether it is possibly meaning conferring to a comparable extent or whether it is actually just a less meaningful form. This is particularly important to be able to better assess the appeal of our proposal, which depends heavily on the attractiveness of the *vita contemplativa.*

Our humanistic proposal, even if one considers these desiderata to be achievable, will not meet with everyone's approval. We cannot go into all of the conceivable critical reactions to this article. In conclusion, however, we would like to pick out at least one and comment on it briefly, particularly to clarify our proposal and also hopefully strengthen its attractiveness.

The critique might be to accept the axiological premise that meaning is important for a good life but to question the initial challenge that the achievement gap does in fact create a problem.[36] For instance, one could argue that the loss of meaning through achievement gaps at the workplace is not problematic because, on closer inspection, there are still enough possibilities to create meaning through achievements. But what are these possibilities? One way of answering this question is probably to add further elements to the triad of the good, the true and the beautiful, namely elements that also exist in an automated world.[37] An obvious candidate for this, if one continues to follow Danaher, would perhaps be the category of "play". According to this, playing itself would then represent the intrinsically valuable action, which would form an achievement sui generis and could, thus, guarantee sufficient meaning beyond gainful employment. There are several answers to this. First, there are conceptual concerns as to whether such a category can be established at all as an achievement and also as one that can be understood as equivalent to altruistic, scientific and artistic achievements. Second, the proposal appears inferior to our humanistic proposal in at least one respect. In contrast to the former, we can experience meaning in the latter by turning to care giving or teaching activities (e.g., in the context of mini-jobs). Likewise, we can make our lives more meaningful by acquiring scientific knowledge or contemplate works of art in an understanding manner. In short, our humanistic proposal is not only committed to *one* substitute source of meaning, such as play, but a *plurality* of different possibilities to shape one's life as meaningful.

What are the consequences of our dialectic considerations? As we see it, this brief investigation certainly cannot show that our humanistic proposal is watertight and immune to any criticism. It shows, however, that it is not so easy to reject it. We have argued that there really are achievement and striving gaps in an automated world. This diagnosis can be simply dismissed or downplayed by the critics. However, one can also orientate oneself towards common intuitions,

[34] Some authors are very optimistic in this regard [5, 13, 17].

[35] For the suggestion to be more explicit about this non-trivial premise and the need for further justification, we would like to thank an anonymous reviewer. Also, a further elaboration of the trias that we, and many in the discourse, subscribe to can be found in [21] and [33]

[36] More radically, one might also question the relevance of meaningfulness as a dimension of the good life in general, and in conclusion downplay our own considerations. We do not have an erudite answer to that challenge in this article, but rather want to refer to Kipke [18] and Rüther [33, chap. 9.2], who deal in more detail with the normative relevance of meaning. In fact, both argue that the meaningfulness of a life is not only a necessary condition for a good life, but also a particularly exposed and significant one, which in many cases also seems to trump well-being. For some, this might stretch the importance of meaning too far. In any case, one can certainly agree with Campbell and Nyholm when they state: "There is a growing interest among analytic philosophers in the notion of meaning in life. It is not so much an interest in determining whether meaning is the sort of thing that people should care about or seek in their lives. After all, it seems almost tautological that it is more desirable to have a meaningful life than a meaningless one." [6, p. 694].

[37] Another possibility would also be to consider a purely subjective theory of meaning, according to which arbitrarily chosen aims contribute to the fulfillment of meaning, so that a meaningful life is still possible despite full automation. We cannot go into these theories of meaning, but we would at least like to express our doubts that these are actually convincing theories. For a detailed critique, which we endorse, see Rüther/Muders [29].

the existing literature and certain burdens of proof. If one does that, then one cannot avoid exploring the options of finding meaning in a post-work future. Our humanistic proposal is, as we argue, a promising result of such an exploration.

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