

The »Self« in the Digital Mirror

Meanings, Myths and Imaginaries of Digital Self-Tracking

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Max Dorfmann

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Kurzfassung

Die Praxis, den eigenen Körper und das eigene Leben mithilfe von digitalen Technologien aufzuzeichnen und zu analysieren, scheint insbesondere mit der Einführung von mobilen Alltagstechnologien wie Smartphones, Smartwatches und Fitnesstrackern rasant an Beliebtheit zu gewinnen. Diese Beliebtheit jedoch allein auf die technologische Realisierbarkeit zurückzuführen, muss im Anbetracht des breiten Konsenses um Theorien einer wechselseitigen Co-Production von Technologien und gesellschaftlichen Tatbeständen als antiquiert betrachtet werden. Diese Arbeit hat das Ziel, die Hintergründe der Beliebtheit von Selbstvermessungspraktiken zu ergründen und fokussiert sich dabei auf die zuvor genannten sozialen Tatbestände, um so die Bedeutungen der Technologie im Kontext des soziokulturellen Status quo in den deutschsprachigen Ländern des globalen Nordens nachvollziehen zu können. Dieser soziokulturelle Status quo lässt sich im besagten geografischen Kontext wohl am besten über die sozialwissenschaftliche Auslegung des Begriffs der Spätmoderne fassen. Unter den Annahmen des symbolischen Interaktionismus, dass die Bedeutungen von Dingen durch kontextspezifische Nutzungsmuster und öffentliche Diskurse entstehen, wurde in dieser Arbeit ein iterativ-hermeneutischer Ansatz zur Beantwortung der Forschungsfrage gewählt. Zum einen wurde eine empirische Studie durchgeführt, in der vier TV-Werbespots von Smartwatches und Fitnesstrackern semiotisch analysiert wurden. Zum anderen wurde parallel dazu und iterativ ein Theoriekorpus, bestehend aus unterschiedlichen sozialwissenschaftlichen Gegenwartsdiagnosen, entwickelt, mit dessen Hilfe die in den Werbeclips inszenierten Phänomene im Kontext der spätmodernen gesellschaftlichen Verfasstheit gedeutet wurden. Die Ergebnisse zeigen, dass Self-Tracking als Praxis eine Reihe spätmoderner Pathologien des alltäglichen Lebens adressiert. Diese beinhalten unter anderem das Verunmöglichen einer zeitstabilen Identitätsbildung durch ständige synchrone und diachrone Rollenwechsel, die Erwartungshaltung eines Aufstiegs oder zumindest der Beibehaltung des Istzustandes im sozioökonomischen Konkurrenzkampf, das Bewusstsein um die Kontingenz der Lebensführung oder die Entfremdung zur äußeren und inneren Natur. Self-Tracking verspricht, diesen Pathologien auf je eigene Art entgegenzuwirken. Gemein ist diesen Verheißungen, dass sie im Kern auf die Rationalisierung der Lebensführung verwirklicht durch die Nutzung von Self-Tracking Technologien verweisen. Sie zielen auf eine Steigerung und Verdichtung der eigenen Leistungsfähigkeit sowie auf die Aktivierung des Individuums ab. Self-Tracking Technologien entpuppen sich so jedoch als Technologien einer instrumentellen Vernunft, die versuchen, soziokulturellen Problemlagen mit einer zahlenbasierten Rationalität zu begegnen.

Abstract

The practice of capturing, processing, and analyzing the own body and life using digital technologies is rapidly gaining popularity, especially with the emergence of mobile everyday technologies such as smartphones, smartwatches, and fitness trackers. However, to explain this popularity solely on the grounds of technological feasibility must be considered antiquated, given the broad consensus on theories of mutual co-production of technologies and social realities. This work aims to explore the background of the popularity of self-tracking practices by focusing on the aforementioned social realities in order to understand their meanings in the context of the socio-cultural status quo in German-speaking countries of the global North. This socio-cultural status quo in the said geographical context can best be grasped through the sociological conception of late modernity. Based on the assumptions of symbolic interactionism, that meanings of things arise through their context-specific use and public discourses, an iterative hermeneutic approach to answer the research question was applied in this thesis. On the one hand, an empirical study was conducted in which four TV commercials of smartwatches and fitness trackers were examined by means of semiotic analysis. On the other hand, a theoretical corpus of contemporary social science diagnoses was developed in parallel and iteratively, with the help of which the phenomena and circumstances staged in the commercials were interpreted in the context of the late modern constitution of society. The findings show that self-tracking as a practice addresses a number of late-modern pathologies of everyday life. Among others, these include the impossibility of time-stable identity formation due to constant synchronous and diachronic role changes, the expectation of advancement or at least the maintenance of the status quo in socio-economic competition, the awareness of the contingency of the own life path, or the estrangement from external and internal nature. Self-Tracking promises to counteract these pathologies, each in its own way. These promises have in common that they refer in essence to the rationalization of life, realized through the use of self-tracking technology. The goal is to increase and condense performance capacities and to activate the individuals. However, in this way, self-tracking technologies turn out to be technologies of an instrumental reason attempting to counter socio-cultural issues with number-based rationalization.

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Introduction

A few months ago, one of my best friends separated from his longtime companion in an unexpected and escalating dispute. We took this incident as a doubtful opportunity to meet for a beer in the same day's evening and talk about what happened. He seemed partly calm but also somewhat confused when he told about the events of that very morning, which made it difficult for me to interpret his current emotional state. For that reason, I asked him maybe the most obvious question that can be asked in such situations: *"How are you dealing with it?"* The answer I got was equally unexpected as fascinating. Instead of externalizing his inner thoughts and feelings, he pulled out his smartphone, opened his fitness tracking app, showed various statistics on some of his body parameters his smartwatch captured that day, and compared them to some average values of past days. After studying the provided numbers carefully for a while, he concluded that something was abnormal with him that day and, thus, he could not feel very well.

As this – admittedly somewhat striking, nevertheless real – anecdote about the use of mobile information and communication technologies (ICTs) shows, the quantitative measurement and monitoring of one's own body and the subsequent attribution of meaning to the data is becoming increasingly attractive for some people to cope with everyday life. What also emerges in this little anecdote is the disruptive potential of such self-tracking technologies. What my friend did (and does) was not only classical analysis and interpretation of any arbitrary data. He analyzed himself through externally measured data about himself, and he is by no means a single exceptional case. According to a study by Splendid Research (2019), 33% of Germans use self-tracking apps, and a further 23% would be interested in using them in the near future. These numbers do not seem surprising at first glance, as modern smartphones are usually equipped with appropriate hardware and offer so-called health apps, in some cases, even as pre-installed software. With the emergence of various mobile self-tracking technologies in the form of wearables such as smartwatches or fitness trackers, logging and analyzing one's own

life is suddenly as »simple« as living the life itself: no elaborate formulating of diary entries; no time-consuming reflections on sufficient physical activity; and finally it is even possible to analyze our sleep.

However, the question of why this seems both attractive and meaningful for people cannot be answered by the mere capability to do so via technology. At the same time, it can be doubted that the development of respective self-tracking technologies would have been considered at all by the tech industry if there were no market for it. Gary Wolf – one of the co-founders of the Quantified Self Movement – discussed in a TED talk what according to him makes ICT-based self-tracking so appealing:

“We know that numbers are useful for us when we advertise, manage, govern, search. I’m going to talk about how they’re useful when we reflect, learn, remember and want to improve. [...] Now, we know that new tools are changing our sense of self in the world – these tiny sensors that gather data in nature, the ubiquitous computing that allows that data to be understood and used, and of course the social networks that allow people to collaborate and contribute. But we think of these tools as pointing outward, as windows and I’d just like to invite you to think of them as also turning inward and becoming mirrors. So that when we think about using them to get some systematic improvement, we also think about how they can be useful for self-improvement, for self-discovery, self-awareness, self-knowledge.” (Wolf, 2010)

New self-tracking technologies generate continuous streams of data about the *Self*, which would probably never or only temporarily be externalized without the respective technologies. By processing and mirroring the data, they enable new ways of self-experience. This can be used to systematically organize one’s own life and make it more efficient. A closer look at this chain of arguments, however, finally raises the question: Why is this actually advantageous for our everyday life? What Wolf describes is not limited to pragmatic areas of application like health care. It is about an all-encompassing “*systematic improvement*” which – as Wolf’s words suggest – is an end itself and requires no further explanation.

1.1 Aim and Leading Research Questions

This work aims to clarify these roughly outlined shortcomings in the understanding of the use of self-tracking technologies and to investigate the cultural foundation around the practice of ICT-driven self-tracking. To achieve this, motives that lead to a perceived need to analyze oneself through digitally measured data as well as collectively shared meanings of digital self-tracking devices will be investigated. Furthermore, these uncovered meanings and motives will be discussed along with their historically grown cultural and socio-economic foundations. The thesis tries to reconstruct the historical conditionality of self-tracking by combining empirical observations with social theories of modernization and late modernity.

The leading research questions are as followed:

Which role do digital self-tracking technologies play for everyday life in late modernity?

- *What hegemonic meanings and ideologies are entwined around the practice of digital self-tracking?*
- *How do these meanings and ideologies relate to the socio-technical and socio-economic context in which digital self-tracking takes place?*
- *To which problems does the use of self-tracking technologies seem to offer a solution and why?*

1.2 Epistemological and Paradigmatic Framing

Before the focus is put on the relevance of these research questions, some basic epistemological and paradigmatic premises under which this study was conducted should be outlined. This is meant to make clear which perspective is taken in the analysis of the meanings and motives of self-tracking. In addition, it is intended to show from which scientific theoretical perspectives the research questions were developed and which approach was chosen to answer them. As already mentioned, answers to the questions of meanings and motives for quantitative self-tracking can already be found in the statements of Wolf. Likewise, there are studies that have already explicitly posed the question of motives and worked it out empirically. When Wolf (2010) strives for informed self-optimization strategies or Gimpel, Nißen, and Görlitz (2013) extract five central reasons why people track their own activities or bodily functions¹ from questionnaires then this indeed tells us something about the individual (conscious) motives and meanings of self-tracking, but it does not go so far as to relate them to the cultural and contemporary context of the subjects concerned and thus achieve a deeper understanding. Understanding is not chosen as a term by chance: It is about an understanding as described by Weber (1921/1988b, p. 542), in which actions are interpreted in relation to the behaviour of others and thus in relation to the subjectively attributed meaning within a social structure. Rather, this work is intended to abstract from individual conscious motivations and to focus the analysis on broader underlying social tendencies. In this respect, following the ideas of Geertz (1973, p. 5), this work aims to unravel the cultural web of meanings humans spun themselves.

To this end, it seems reasonable to initially disregard specific characteristics of the technology itself and to view it rather abstractly as a cultural product with a certain use-value. This abstraction makes it possible to draw on existing theories of action developed by social sciences, which provide explanations for why the meanings of self-tracking technologies can't be understood comprehensively without considering the socio-cultural context in which they are developed, produced and used

¹Self-entertainment, Self-association, Self-design, Self-discipline, and Self-healing

One of these social theories of action is Symbolic Interactionism. The theoretical perspective of Symbolic Interactionism according to Blumer (1986) is concerned with the analysis of relationships of individuals to other individuals as well as to material things. In particular, the theory provides an explanatory model for motives of individual and collective human action and traces them back to communicative processes in which meanings ascribed to certain things and processes are negotiated. Blumer defined three basic assumptions on which the theory is based on.

“The first premise is that human beings act toward things on the basis of the meanings that the things have for them. [...] The second premise is that the meaning of such things is derived from, or arises out of, the social interaction that one has with one’s fellows. The third premise is that these meanings are handled in, and modified through, an interpretative process used by the person in dealing with the things he encounters.” (Blumer, 1986, p. 2)

The significance of these basic premises for the present work – as well as for research into the appropriation and use of technology in general – lies in the shift in perspective adopted towards the object of research. According to the methodological position of Symbolic Interactionism, the question of why and how a certain thing (in our case self-tracking technologies) is used depends not only on the thing itself but also on the person using it. Cultural artifacts indeed restrict the potential horizon of its use by structural or functional characteristics. However, the central statement made by Blumer with regard to usage patterns of technological artifacts is that structural and functional characteristics do not in any way act as determinants of use. Use must be understood as a consequence of the attribution of meaning by the acting subject. At the same time – as described by the second premise – the attribution of meaning is negotiated through social interaction, i.e. in the mutual exchange between subjects and/or things. In this respect, meanings are socially constructed. The relationship between the subject and the thing follows certain regularities within a sufficiently narrowly defined cultural area and is thus not exclusively individual. The third premise again emphasizes the process of attributing meaning in dealing with things but adds a dynamic and time-dependent dimension to the first premise. Meanings are not rigid structures that – once internalized – guide the handling of things in a uniform and context-independent way. Rather, the structure of meaning is formed and changed while dealing with things and also depends on the context of use. For example, a smartphone can be interpreted as a watch, a means of interpersonal communication, a medium of entertainment, and – in exceptional cases – a projectile, depending on how it is interpreted and used in the given context.

Together with this methodological perspective, another central concept of the present thesis was introduced: That of meaning. As can be seen from the description of Blumer’s basic premises, the concept of meaning is central to the understanding of active human perception and human action. According to Steinhardt (1999), the concept of meaning is essential to understand how technologies are perceived, used, and ultimately integrated into existing socio-technical settings. Here he attests technology a dual character which can also be understood as an analytical separation: On the one hand, technical artifacts

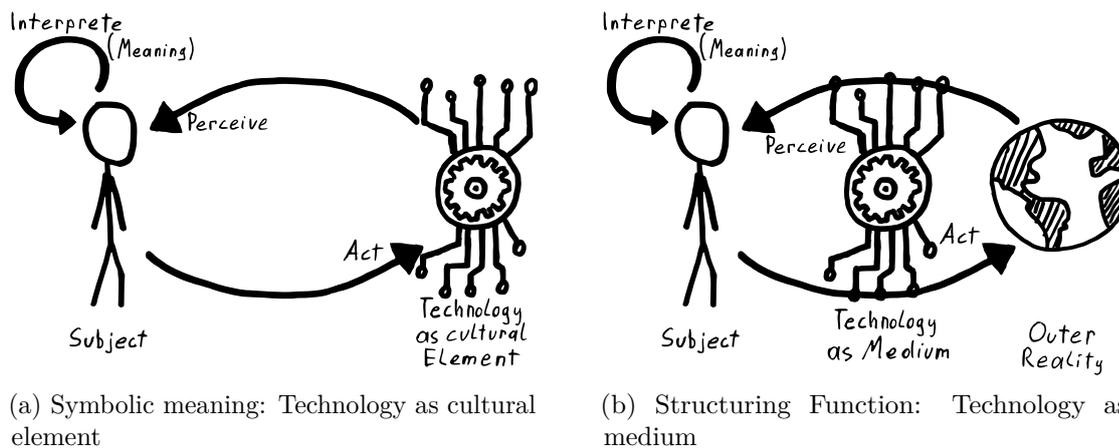


Figure 1.1: The dual character of technologies according to Steinhardt (1999); Source: Own illustration based on Steinhardt's lecture slides

can be understood as cultural elements (see Figure 1.1a). As such, a technical artifact in a sufficiently narrowly defined (sub)culture has one or more symbolic meanings as described by Blumer's (1986, p. 2) premises of Symbolic Interactionism. On the other hand, technical artifacts act as a medium between the subject and its outer reality (see Figure 1.1b). In this mediating function technology influences both the perception and the actions of people. There is a relation between the symbolic meaning and the structuring function in so far as the mediating function of technologies can only unfold under established interpretative symbolic meanings. As can be seen from the basic premises of Symbolic Interactionism, structures of meaning are decisive for the effective use of things or technologies. When certain patterns of use become established, they structure people's dispositions for action as well as the perception of the world.²

It is difficult to predict which structuring functions will result from the use of automated self-tracking technologies since the technology is not yet widely used and has various fields of application. What can be analyzed, however, are the common attributions of the meaning of these technologies by studying the public discourse around it. As will be shown in more detail later (see subsection 4.3.2), these negotiated meanings of things can be conceptualized on different orders of abstraction (Barthes, 1957/1991, p. 113; Gonsalves, 2010, p. 46). At this point, only a simplified version will be provided to clarify the intention of this study.

²A short example of symbolic meanings and structuring functions: Mobile phones structure how we act outside our homes by their established meaning as mobile communication devices. Anyone who has ever lost their mobile phone/smartphone or forgot it at home probably knows this situation: Without these devices, it is difficult to make ad hoc arrangements with others, to find the way from A to B quickly using GPS, etc. Thus, the mobile phone has structured our perception and our actions in such a way that we can arrange our everyday life more flexibly and without extensive planning. We become aware of this structuring function when the established meaning of a mobile communication medium is not available and therefore our dispositions for action are restricted.

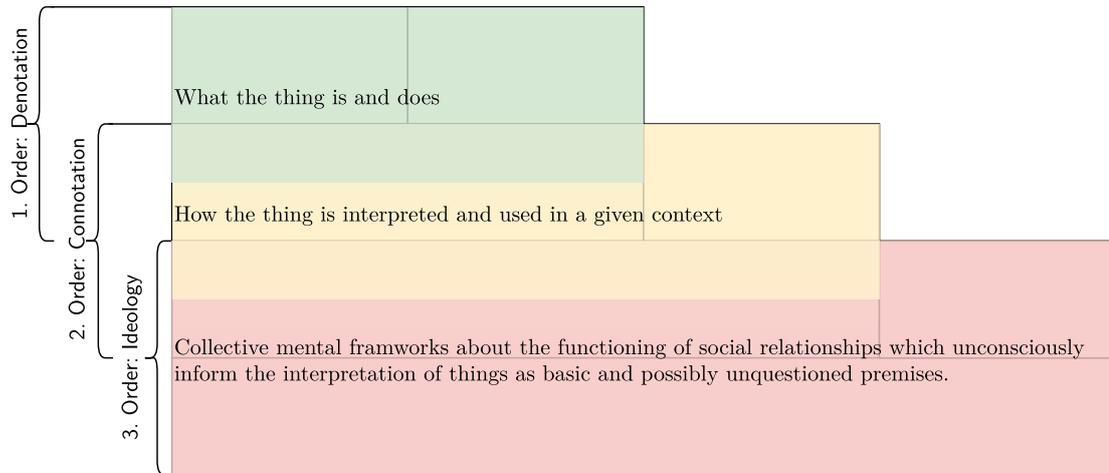


Figure 1.2: The orders of meaning in simplified form; Source: Own illustration based on Barthes (1957/1991, p. 113) and Gonsalves (2010, p. 46)

Figure 1.2 shows these different levels of symbolic meaning attributions. On a first, denotative level, certain things have a more existential meaning, which can be understood as a primary description of the thing, such as form and function. Connotative meanings, on the other hand, are primarily culture-dependent and context-specific patterns of interpretation of a thing that arise, for example, in a concrete context of use. Finally, on a third level, there is an ideological basis from which the aforementioned meanings emerge. This means that meanings of certain things or facts are derived from dominant cultural values, socio-economic conditions, or general approaches and relations of a specific society to the world. The present work is primarily concerned with the elaboration of this ideological foundation from which digital self-tracking technologies emerged. Specifically, I would like to refer to Stuart Hall’s (1986) concept of ideology, which he defines as follows:

“By ideology I mean the mental frameworks – the languages, the concepts, categories, imagery of thought, and the systems of representation – which different classes and social groups deploy in order to make sense of, figure out and render intelligible the way society works.” (Hall, 1986, p. 29)

The concept of ideology, which originates from political and cultural sciences, is relevant in this work because it conceptually best describes the kind of knowledge to be achieved. According to Barthes (1957/1991, p. 143), ideology becomes apparent when history is transformed into nature, i.e. when something cultural is perceived as something natural. If Gray Wolf is able to present self-optimization as something self-evident, possibly even as a natural need, then this points to ideological structures of action and thought.

These considerations on ideology made by Barthes (1957/1991, p. 143) were guiding the research in the present work. If ideology represents a transformation of historical facts

and developments into seemingly natural premises of human action, then there seems to be no way around a historical investigation of the cultural and socio-economical dynamics of modernity, and especially of late modernity. For this reason, this thesis was designed as a two-part study, in which the social, economic, and cultural conditions of late modern technology use were examined by means of literature research. In addition, a qualitative empirical study was conducted in which advertising videos of automatic body function trackers such as smartwatches and fitness wristbands were analyzed. The results of the literature research formed the initial interpretational framework for the semiotic analysis of the advertising videos. At the same time, the analysis opened up new perspectives on self-tracking, which in turn were theoretically enriched by literature research. In this respect, a hermeneutic approach was chosen to answer the leading research questions whereby the body of knowledge and the individual empirical findings were enriching each other.

Finally, it should be noted at this point that the concept of ideal types was applied in the presentation of the theoretical foundations, the empirical analysis, and the theory construction itself. The concept of the ideal types goes back to Weber (1904/1988a) and attempts to grasp and order a section of social reality by highlighting essential characteristics of reality and often exaggerating them. *“An ideal type is formed by the one-sided accentuation of one or more points of view and by the synthesis of a great many diffuse, discrete, more or less present and occasionally absent concrete individual phenomena, which are arranged according to those one-sidedly emphasized viewpoints into a unified analytical construct”*³ (Weber, 1904/1988a, p. 65). The application of ideal types in the construction of social science theory is based on the observation that statements about evident tendencies in social structures hardly withstand the positivist principle of falsification due to the contingency of human experiences and human action. Human action is unpredictable, at least from an epistemological perspective. This means that any generalized statement about human action will sooner or later fail when tested on an individual case since not all individuals act as predicted or described by the theory. In this respect, ideal types serve as a science-theoretical construct to adequately grasp social reality in terms of predominant and observable phenomena. The generally easy falsifiability of social theories does not mean that they are »false«. It only means that the autopoietic sphere of the social is difficult to fathom with the paradigm of positivism, which originated in the natural sciences and was developed for nomological objects of investigation (Kreitz, 2020). For this reason, qualitative methods instead of quantitative methods were used in the empirical part of this thesis.

³Translation from German taken from Coser (1977, p. 223). The original wording by Weber (1904/1988a, p. 65) is as follows: *“Er wird gewonnen durch einseitige Steigerung eines oder einiger Gesichtspunkte und durch Zusammenschluß einer Fülle von diffus und diskret, hier mehr, dort weniger, stellenweise gar nicht, vorhandenen Einzelercheinungen, die sich jenen einseitig herausgehobenen Gesichtspunkten fügen, zu einem in sich einheitlichen Gedankenbilde.”*

1.3 Relevance

The relevance of this work can be seen at least on two different levels. On the one hand, on a more pragmatic level in the sense of the critical perspective of the field of Social Informatics and thus with regard to a design orientation of ICTs. On the other hand, on a more theoretical level with regard to the discourses within the Sociology of Technology and Philosophy of Technology.

On the pragmatic level, the present work can be seen as a contribution to the research on the genesis and appropriation of technology. The aim is to show to what extent and how self-tracking technologies are related to social and economic conditions in their creation and use. Such knowledge can contribute to the critical perspective of Social Informatics. According to Kling, Rosenbaum, and Sawyer (2005, pp. 7-8), the critical perspective of Social Informatics is concerned with the examination of the development of ICTs with special attention to the goals and beliefs of the stakeholders involved. These goals and beliefs are not silently accepted but critically questioned in order to uncover possible misdevelopments and/or alternative solutions for the problems the technology was intended to solve. This can also lead to a rethinking and reframing of the initial problem, which means a conceptual shift from pure problem solving to reflected problem setting (Schön, 1984, pp. 21-69). A socio-technical approach is explicitly pursued here, which assumes that technological artifacts and the social environment in which they are integrated are interrelated and that the actual consequences of technology use arise from this mutual dynamic. Social Informatics thus explicitly positions itself against technology deterministic perspectives and solutionist approaches, according to which problems can always be challenged with technological fixes (Kling et al., 2005, pp. 13-16). In the present work, the question of the problems for which self-tracking technologies are supposed to offer a solution as well as the goals and beliefs behind them is explicitly asked. In this respect, answering this question can contribute to an alternative formulation of the problem setting, based on which new socio-technical systems can be imagined, designed, and implemented.

To show the relevance with regard to the discourses within the Sociology of Technology and Philosophy of Technology, the previously mentioned model of symbolic meanings and structuring functions (Steinhardt, 1999) can be taken up and adapted by taking the characteristics of self-tracking technologies into account. Whatever the established symbolic meanings of self-tracking technologies may look like, it seems quite plausible that the structuring functions resulting from them will relate to the perception and action towards one's own body and Self (see Figure 1.3). In the general model proposed by Steinhardt (1999), a technology in its structuring function mediates between the subject and its outside world. In my opinion, one of the most interesting aspects of self-tracking is that this outside world is no longer to be understood solely as an external habitat. In the practice of self-tracking, technology also acts as a mediator between a subject and itself as a kind of distorting mirror. Distorting insofar as self-tracking technologies only highlight some aspects of one's own body or Self making them appear relevant, while others are only made implicitly visible or remain completely unaddressed. In

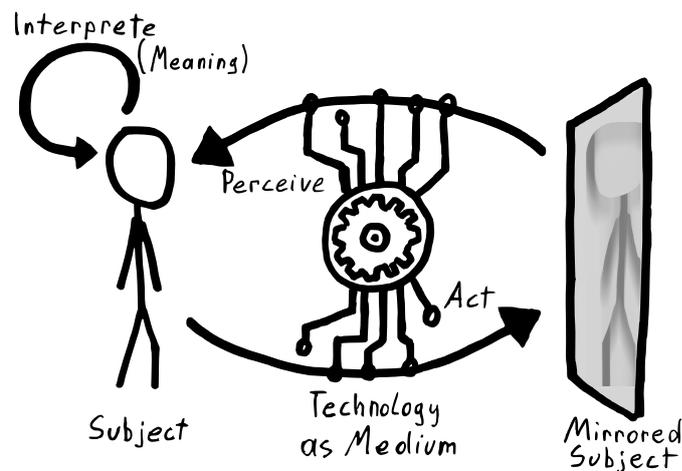


Figure 1.3: Schematic illustration of structuring functions of self-tracking technologies;
Source: Own illustration based on Steinhardt's lecture slides

addition, there are distortions due to unreliable measurements and those resulting from the reductive translation of complex biological and psychological processes into numerical data. In this respect, the investigation of the meaning of self-tracking technologies appears as a technology sociological question: What does it mean for the acting subject when technologies generate a possibly distorted self-image? Even though this question is not explicitly posed in this thesis, a basis for subsequent investigations of the structuring functions is intended to be laid. From the perspective of the Philosophy of Technology, an analysis of the meanings of self-tracking can provide insights on dominant human ontologies. As Hernández-Ramírez (2017) points out with reference to Foucault's thoughts on *Technologies of the Self* (1988) and Floridi's *Philosophy of Information* (2011), self-tracking technologies play a central role in the perception of others and of oneself and have the potential to transform the concepts of *Human*, *Body* and *Self* in a disruptive and unpredictable way. The question of the meanings of self-tracking is also a question of the relationship and demarcation between *nature* and *culture*, *biology* and *technology*, or *subject* and *object*, and can therefore also be interpreted as a philosophical and here especially as a transhumanist discourse (Ross, 2020, pp. 84-85).

1.4 Scope and Framing of the Study

The main focus of this study is the investigation of collectively held structures of meanings of automated self-tracking technologies and their ideological background with regard to the developmental tendencies of the late modern constitution of the society nowadays in the German-speaking area. In this respect, this work focuses on a purely descriptive analysis of the phenomenon in question.

The spatial limitation of the gained insights to the German-speaking region is not due to

the origin of the empirical material⁴ rather than the origin of its interpretative framework and the interpreter himself. Alluding to Santos' (2015) *Epistemologies of the South*, it can be stated that this work is a study under the sign of an *Epistemology of the North*, both in terms of methodology⁵ and content. Therefore, the approach and results of this study must be interpreted in this light. Whenever references are made to (late) modern historical developments and theories concerning them, this always refers to a conception of (late) modernity of the Western-influenced global North. Furthermore, within this scope, I refer to findings and theories from Central European or German-speaking countries⁶.

In order to fully meet Merton's (1968, pp. 39-72) demand for *Theories of the Middle Range*, in addition to the spatial, also the temporal context must be mentioned as a limiting factor for the applicability of the findings. The theoretical framework for the interpretation of the meanings of self-tracking consists of theories on late modernity up to the time of writing this thesis. It includes both older and immediate contemporary diagnoses of the societies of the Western global North. The advertising videos used as empirical starting material were all produced and published between 2014 and 2019. The interpretation of the material thus reflects an assessment of the status quo in 2020.

1.5 About this Thesis

The chapter 2 (*Definition of the Research Object & Existing Research*) is meant to define the object of research as well some central terminologies used throughout this thesis more precisely. Afterwards (section 2.2), findings of existing research addressing the question on the foundations and meanings of self-tracking are presented. Based on the different perspectives on the phenomenon of self-tracking that appear in the relevant literature, chapter 3 (*Theoretical Framing*) introduces the theoretical framework applied in the analysis of this study. According to the two Dutch sociologists Van der Loo and Van Reijen (1990/1992), modernization, modernity, and the phenomena occurring therein can be viewed from four different perspectives: *differentiation*, *individualization*, *domestication*, and *rationalization*. These four dimensions represent ideal-typical developments of modernity, which, in their entirety, influence human action in this epoch. In the course of this study, they serve as different lenses through which the phenomenon of self-

⁴The advertising videos examined are mainly from the USA. Only one of the analyzed commercials was produced in the UK. Nevertheless, for all cases examined, evidence can be found that they were broadcast in Central Europe. See section 4.2 for a more detailed discussion on the sample.

⁵This rather Eurocentric methodological perspective was presented in section section 1.2

⁶At the same time, the interpretations of self-tracking developed in this study always refer to a certain extent to myself and my interaction with the subject and material. As Denzin and Lincoln (2005, p. 6) point out, scientific findings can never be understood separately from the researchers themselves, their personal history, biography, gender, social class, ethnicity, and the research environment. Knowledge is not context-free but results from decisions made in the research process and perspectives taken on the object of investigation. For this reason alone, the insights gained must be limited to the German-speaking countries in which I was socialized. I will come back to this topic in section 6.1 and discuss the measures taken to generate scientifically sound and reliable (or, in Lincoln and Guba's (1985) terms, trustworthy) knowledge despite this fact. To anticipate one point: This section is part of that process.

tracking will be examined. Following a general discussion (section 3.1) of these four dimensions, each of them will be taken up individually and laid out in detail (section 3.2 *Differentiation*, section 3.3 *Individualization*, section 3.4 *Domestication*, and section 3.5 *Rationalization*). Here, the focus is primarily on the late modern manifestations of the four developmental tendencies. This detailed discussion must be understood as the result of the empirical study carried out in this thesis, as it represents the outcome of a hermeneutic process. The theoretical framework was developed by a mutual comparison between the phenomena addressed in the empirical source material and the theoretical foundations under which they can be interpreted. The chapter 4 (*Methodology*) initially addresses the question of suitable characteristics of precisely that source material. As discussed in detail in section 4.1, the research questions described above can be addressed by analyzing TV commercials. In addition, the sampling of the material is discussed in section 4.2. This is followed by a discussion of how semiotic analysis methods (section 4.3) are suitable for answering the initial research questions posed at the beginning and which concrete method was applied to do so (section 4.4). In chapter 5 (*Findings*), the findings of the study are discussed, whereby, first of all, a detailed analysis of the connotative meanings of self-tracking technologies appearing in each of the sampled TV commercials is given (section 5.1). Subsequently, the results of each individual analysis are interpreted using the four dimensions of the theoretical framework and thus brought into a socio-cultural context of the status quo (section 5.2). Following these results, chapter 6 (*Discussion*) attempts to frame the individual results of the multi-perspective analysis into a more holistic picture by answering the initial research questions. The measures for quality assurance of the results are also addressed (section 6.1). Subsequently, chapter 7 (*Conclusion*) concludes the thesis by discussing a summary of the overall work as well as the results' limitations and potential future work (section 7.1).

Definition of the Research Object & Existing Research

Before going into the elaboration of a theoretical framework for the interpretation of self-tracking, I will first explain some central terminologies concerning the object of investigation, thus sharpening them theoretically and defining the scope of investigation more precisely. Subsequently, some existing research focusing on interpretations of self-tracking are presented in a compact form. This elaboration is kept compact because the insights gained from this literature inspired the theoretical framework for the analysis of the phenomenon of self-tracking developed in this study and discussed in the subsequent chapter 3. In order to avoid duplications within the thesis, the reader is referred to this chapter, in which some of the terminologies and concepts only hinted at here are discussed in more detail. In this respect, I hope that any ambiguities that remain after the reception of this chapter will be forgiven and that they can be resolved with the theoretical framework presented in chapter 3.

2.1 What is Self-Tracking?

According to Selke (2016, pp. 1-2), *self-tracking* (or *lifelogging*) describes the measurement and recording of one's actions, bodily functions, and one's own life, as well as the subsequent reflexive analysis of that data, supported by digital technologies. In a similar vein, Lupton (2018) describes “[...] *self-tracking as a reflexive mode of practice that is adopted by people as a way of learning more about themselves by noticing and recording aspects of their lives, and then using the information that is gathered to reflect on and make sense of this information*” (Lupton, 2018, p. 1).

As can be seen from these definitions, self-tracking can be interpreted in many different ways. For example, the logging of the daily work routine with time-trackers or writing

a digital diary can be understood as self-tracking in the above sense. In this work, however, I would like to consider this term in a narrower sense and take the liberty of extending those definitions of self-tracking with the automated collection, logging and evaluation of action- and body-related data. Therefore, this definition excludes all kinds of manual tracking activities and includes the conclusions and recommendations for action automatically generated by the corresponding digital devices.

Lupton (2018, p. 1) points out that the concept of self-tracking in computer sciences is often negotiated over the term *personal informatics* and describes, in particular, the tools, means, and practices that serve to record one's life digitally. Even though this work is intended as a final thesis in computer sciences, I will use the term *self-tracking* instead of *personal informatics* in the following, since it places an action at the center of the analysis and, therefore, better reflects the aim formulated in the research questions. Further, this terminology implicitly includes the sociological concept of the *Self*. In my opinion, the term *personal* is inadequate in that it suggests that the tracking of own actions and bodily functions takes place in an isolated and private sphere. As will become apparent throughout this work, such a connotation does not do justice to the relationality between the acting individuals in the lived common practice of digital self-tracking, which, however, can be grasped very well with the concept of the *Self*.

In social sciences, the concept of the *Self* describes the mental construction of a person by the person itself (Scott & Marshall, 2009, pp. 677-678). Thus, it is about the perception of oneself, one's actions, appearance, and the subsequent interpretation as a holistic self-conception within a social environment. The concept is decisively linked to the idea of Symbolic Interactionism, and therein highlights the social construction of this self-conception. How we conceptualize ourselves does not emerge intrinsically but is created by means of externalized observation through the eyes of others. In other words, we always see ourselves from an assumed perspective that others might have on us. Connected with this is an objectification of our appearance and actions, which are then mentally made the object of reflection. In this respect, the reflection about oneself always includes social norms and ideals. (Scott & Marshall, 2009, pp. 677-678)

2.2 Review of Existing Research

Noji and Vormbusch (2018, pp. 29-31) work out the hypothesis that self-tracking can be understood as a form of self-thematization alongside others, such as psychotherapy or self-help groups. For the authors, the causes for the emergence of digital self-tracking practices are to be found in the tendencies of differentiation, individualization, and acceleration in late modern societies. These tendencies create a crisis of identity of the late modern subject through their characteristic effects of pluralized lifestyles and the constantly changing social relationships. According to the authors, self-tracking would offer a potential counter-strategy to the loss of stable institution of identity formation and the resulting insecurity by combining the authenticity idea of the individual psychotherapeutic session with the expressive self-construction of group therapy sessions. By this, the authors

mean that self-tracking serves, on the one hand, to become aware of the own status quo (authenticity) but can also be used to develop future perspectives (expressiveness). These two subject-related realization strategies go hand in hand: In order to know where to go, I must first find out where I am. Self-tracking would be a supposedly proven means of establishing identity in late modernity since it generates numbers, thereby enables easy to handle forms of comparison and generally suggests objectivity. In contrast to narrative practices of self-thematization, self-tracking promises to abstract from the concrete pluralized lifestyles held responsible for the crisis. Whether the construction of identity through number-driven self-thematization can succeed is something the authors do not see yet answerable. However, they describe how such self-images constructed through the analysis of numbers might de-solidify the subjective identity since the construction of the Self only takes place via a fixation on a few courses of action. They also doubt that self-tracking will turn out to be a self-determined practice of identity construction. Through the integration of self-tracking into an accelerated modernity as well as the possibility to compare the own performances with those of others through the gathered numbers, the practice could lead to an optimization dynamic. If this is the case, the voluntary self-discovery and self-orientation will become a compulsion to improve through self-tracking.

King and Gerisch (2018, pp. 42-43) support this assumption. In their exemplary case study of a convinced self-tracker and advocate of Quantified Self-Movement, they were able to identify clear behavioral patterns of forced optimization of one's own actions. In the presented case, this idea of optimization with the help of numbers and statistics about oneself appeared alongside other observable tendencies. On the one hand, the study participant fulfilled the sociological ideal type of an Entrepreneurial Self, as described by Bröckling (2015)¹, by making himself a commodity and marketing himself through self-tracking technologies. The own optimization behavior is justified by the better positioning on the labor market, the planned future self-employment, and thus the better economic usability of the own person. At the same time, it can be seen that the data-driven fixation on himself caused the respondent to neglect his social relationships. Moreover, the respondent perceived his social relationships, including those with his own newly formed family, as obstructive for the realization of his future personal projects. Furthermore, the interviewee considered self-optimization as a strategy for overcoming his subjectively perceived biological limitations.

In his approach to interpreting the phenomenon of self-tracking, Schaupp (2016) attempts to build a bridge between economic basis and cultural superstructure. On an economic basis, he describes the emergence of what he calls cybernetic capitalism in postfordism. Schaupp literally refers to cybernetics founded by Wiener as the science of controlling and regulating complex systems through homeostasis. In cybernetics these complex systems are considered as black boxes with input and output parameters, but their internal

¹In the theoretical framing laid out in chapter 3, I will not cover this topic via Bröckling's (2015) *Entrepreneurial Self*, but via the ideal type of *Entreployee*, according to Voß and Pongratz (1998). In essence, both concepts describe that the late modern subject is increasingly becoming an organizational entity of its own work and must manage its resources in an entrepreneurial manner.

mechanisms are unknown and the relation between input and output cannot be regarded as uniform. Therefore, targeted control should be achieved by a so-called homeostat, whose discovery, according to Schaupp (2016, p. 65), is “*the philosopher’s stone*” of cybernetics. According to Schaupp (2016, p. 66), cyberneticists agree that a homeostat must have three central properties:

- Sensor technology for recording various states of the system to be regulated.
- A logic unit that specifically sorts, reduces and interprets the recorded sensor data.
- A feedback mechanism that returns the processed data to the system and triggers the hoped-for changes there.

Based on these central properties, Schaupp (2016, p. 67-69) derives four central principles that can be considered both ontologically and epistemologically as the foundation of cybernetic control logic:

- Monitoring a system from as many perspectives as possible using quantitative measurements for better automated data processing and evaluation.
- Feedback of measurement data to the system with preceding reduction tailored to the defined control target.
- (Self-)optimization of the system as a central goal of cybernetic control in the sense of evolutionary dynamics with regard to »desirable« developments.
- Overcoming performatively limited and rationally biased »cognitive« control performed by human actors through big-data based »performative« control performed by machines, providing apparently objectively best solutions for the problems the system is intended to solve.

Schaupp (2016, p. 82-83) subsumes postfordist capitalism, and digital capitalism in particular, under the term *cybernetic capitalism* because he sees these onto-epistemological principles of cybernetics realized in the late modern form of capital accumulation in several places. Future-oriented production control, as implemented by the Toyota Kanban system, can be understood as a cybernetic control system that uses market research to determine the potential of commodities to optimize their production. Personalized online marketing can also be classified as a form of cybernetic control, as data on consumers is collected and evaluated in order to place target-group-oriented advertising. In postfordism, the cybernetic control principle has proven to be an effective means to optimize the cost-benefit relation. Likewise, Schaupp sees the cultural phenomenon of self-tracking as a manifestation of cybernetic control performed by humans over themselves. Self-tracking technologies act as homeostats by automatically tracking activities and bodily functions that would enable people to optimize their own actions by means of feedback. At the

same time, they would make things appear that are generally beyond human perception and thus enable more objective reflections on actions. Schaupp sees the bridging element between the economic basis of cybernetic capitalism and the cultural practice of cybernetic self-tracking in the entrepreneurial Self. The entrepreneurial Self would take up dominant and proven practices of entrepreneurial control in order to be able to act in an optimized way. In self-tracking it would find a method to collect data about one's own actions and integrate them into the cybernetic control cycle.

Schulz (2016, pp. 60-61) argues that self-tracking practices can be understood as an alienated reaction to subjectively experienced reification of the Self. By reification he means that the own body and the Self in modernity is perceived as a cog in the great production machinery and thus as a functional object of capitalism. He distinguishes between heteronomous and autonomous reification in Fordist capitalism. The heteronomous reification took place in the context of wage labor and was heteronomous to the extent that the reification was commanded from outside. Autonomous reification took place in leisure time, in which people acted as consumers within the capitalist machinery, for example in the form of expensive hobbies or the consumption of culture-industrial media content, but where they were able to command themselves autonomously. In late modernity, a reintegration of the formerly separated functional spheres of work and free time is becoming apparent, whereby the prior autonomy over leisure time becomes fragile, mediated by developments such as the precarization of work and the resulting pressure to increase the own productivity. In this context, he interprets self-tracking as a promise to regain the fragile autonomy and thus at least gain control over the improvement of the own performance. The use of self-tracking technologies would at least give the impression of having control over one's success and thus exclude the experienced insecurity on the job market. On the other hand, he sees self-tracking as an attempt to secure autonomous reification from the invasion heteronomous reification by, for example, evidently capturing categories such as one's own well-being through numbers and thus at least relegating heteronomous reification to the background. One does not necessarily have to agree with Schulz's diagnosis that any individual action stands exclusively in the context of capitalist valorization. Nevertheless, his work shows that the meanings of self-tracking can also be illuminated in the context of objectification, reification and alienation phenomena of the late modern subject.

As these findings suggest with regard to the question of meanings of digital self-tracking, the emergence of this practice can by no means be reduced solely to general feasibility by using bleeding-edge sensing technologies. Rather, the attractiveness of self-tracking appears to result from a complex interplay of different cultural phenomena expressed through the use of these technologies. Based on this observation and by taking into account the different facets identified in the findings presented, the idea of a multi-perspective approach to self-tracking emerged, which is presented in the next chapter.

Theoretical Framing

By considering again the different insights from the studies mentioned in the last chapter, the hypothesis can be derived that the meaning of self-tracking results from a complex interplay of socio-structural, personal, body-relational, and objectifying tendencies in the late modern societies of the global North. These trends are surprisingly easy to reconcile with the modernization concept developed by the Dutch sociologists Van der Loo and Van Reijen (1990/1992). For this reason, the present study uses this conceptualization of modernization to explore self-tracking in the context of late modernity through the dimensions described by the authors. Therefore, in the following, the concept of modernization described by van der Loo and van Reijen will be presented. Subsequently, the structuring of modernity proposed by the authors will be taken up, and relevant diagnoses and findings for the interpretation of self-tracking will be presented.

3.1 Modernization and Modernity

In the social sciences, modernization describes the social change that has taken place in the course of industrialization since the 19th century and can still be observed today¹. Modernity, i.e., the period which is the object and result of modernization, is – above all – characterized by its gradual volatilization of social and institutional relations. This refers to the dissolution of traditional social orders and social institutions, which previously – for example in feudal societies – assigned individuals a specific place and function. In modernity, these traditional orientational frameworks are broken up and reorganized. An

¹Most of the »classical« sociological diagnoses of modernization and modernity are guided by a Eurocentric perspective. Since the present study focuses on the Western industrial societies of the global North or – more precisely – of the German-speaking areas, I will refer to these Eurocentric concepts and theories. However, it should be kept in mind that modernity as an epoch and modernization as a process can (maybe even must) be conceptualized differently depending on geographical particularities. (see, e.g., Bhabra (2007) for a critique on the Eurocentric sociology of modernity)

example of this observation is the emergence of an influential bourgeoisie and the resulting disempowerment of the aristocracy. Former agricultural workers became dependent on this aspiring bourgeoisie by entering into wage labor relations with them, which ultimately leads to a new distribution of social stratification. (pp. 25-30 Rosa, Strecker, & Kottmann, 2018)

According to Van der Loo and Van Reijen (1990/1992, pp. 29-30), this modernization process continues up to the present, since its constitutive characteristics are still evident today, although they have changed structurally over time. They try to condense these constitutive characteristics into a conceptual scheme. In doing so, they orient towards Parsons's (1937/1961) so-called *Structure of Social Action*. According to this scheme, social reality is influenced by four major dimensions and can, therefore, be understood from four different perspectives. On the one hand, there is a *structural* dimension, according to which individuals take up a specific position or role in society. Through this role, the individual enters into pre-structured interactions relationships with others, who thereby take on specific roles themselves. Depending on the roles of the interaction partners, these relations follow certain regularities and create what we would call a social structure when viewed as a whole. From this structural perspective, human action is influenced by one's own role and the roles of the interaction partners to which the action relates. Furthermore, social reality is determined by the *cultural* reality of the acting person. In this context, »cultural« means the totality of norms, rules, and value systems that influence people's social actions and create collective structures of meaning. While the structural and cultural dimensions primarily aim at external circumstances, the *personal* dimension focuses on the influence of individual practice on social reality. The focus is on predominant personality traits that are socialized within a cultural context and unfold in the course of social interaction. Ultimately, social reality is also influenced by the predominant *relationship to nature* of individuals, either the one surrounding them (external nature) or their own (internal nature). (Van der Loo & Van Reijen, 1990/1992, pp. 29-30)

Van der Loo and Van Reijen (1990/1992, pp. 30-34) attempt to specify a generalized concept of modernization by classifying modern phenomena according to the four dimensions described by Parsons. For the authors, this results in the following modernization dimensions:

- From a *structural* perspective, modernity is characterized by the *differentiation* of functional spheres and the pluralization of roles.
- From a *cultural* perspective, modernity can be described by the *rationalization* of reality .
- From a *personal* perspective, modernity can be outlined through the *individualization* of the way of life.
- From a perspective of *relations to nature*, a far-reaching *domestication* of the inner and outer nature can be observed in modernity.

In the following, these four dimensions of (or perspectives on) the process of modernization will serve as an analytical framework for both the theoretical and empirical exploration of the self-tracking phenomenon. For this reason, the four dimensions will first be roughly outlined in the following, and their core ideas and diagnoses are shortly presented. This introduction serves as a basis for the discussion of the theoretical interpretation framework of self-tracking discussed in the next section, which was both, developed from and applied in the empirical analysis in a hermeneutical way. However, it should first be noted that the conceptual scheme developed by Van der Loo and Van Reijen represents a dimensioning of one and the same dynamic process. In this respect, the metaphor of perspective should be taken literally: looking at a thing or process from different points of view does not change the identity of the thing or process itself. It is only a matter of shifts of accent that from one angle emphasize one, and from another angle, the other aspect of the thing or process or let it appear in a different light. Nevertheless, it is always one and the same thing or process. In this respect, these four dimensions cannot be understood as entirely separate sub-processes of modernization, but must always be assumed to be inter- and mutually dependent.

3.1.1 The Four Dimensions Of Modernization

According to Van der Loo and Van Reijen (1990/1992, p. 31), the **differentiation** of functional spheres describes a change of the structural characteristics of social interaction spheres. In the course of modernity, this change is characterized above all by the disintegration of a »homogeneous whole« into differentiated and specialized functional spheres with their own institutional characters, rules, and logic. One example of this process is the successive division of labor in the course of the modernization process, which reached its peak on a micro-level in the assembly-lines of the Fordist-influenced production paradigm, but which continues to reach into the present on a macro-level, for example in the form of globally distributed production processes. At the same time, there is a differentiation of individual domains of life, such as the spheres of work and the private, which are also emerging throughout the process of industrialization (Jürgens, 2010, pp. 486-488). A second form of differentiation, which is by no means unique to modernity, but which did (and does) take on certain characteristics therein, is the stratification of society in the sense of a hierarchical super- and subordination of the individual. First and foremost, Marx must be cited as the linchpin of stratification theories with regard to early and developed modernity (Van der Loo & Van Reijen, 1990/1992, pp. 99-102). Marx (1890/1972, pp. 161-213) sees the ownership (or non-ownership) of means of production as a central stratifying element. In view of this dichotomous distinction, Marx sees modern societies falling apart into two classes: The bourgeoisie, which is in possession of the means of production and thus, according to Marx's surplus-value formula $G-W-G'$ ²,

²Put very simply, Marx (1890/1972, pp. 161-170) wants to characterize the core principle of capitalism through the formula $G-W-G'$. G and W stand for the German word for money (*Geld*) and commodity (*Ware*); G' consequently for more money (*mehr Geld*). In English literature, the formula is often referred to as M-C-M' for *Money-Commodity-more Money*. According to Marx, in the direct form of the commodity circulation, goods (W) are produced primarily with the aim of exchanging use-values of commodities via

enjoys the privilege to invest money (G) to produce commodities (W) in order to generate more money (G'). And the working class without means of production, which only are in possession of their own labor power, is forced to sell it and thus, according to Marx's capital formula G-W-G', generates the surplus-value (i.e., the difference between G' and G) through inappropriate wages. According to Marx, these differences will increasingly harden as capital concentrates more and more in the hands of the upper class while the lower class continues to impoverish.

In sociology, **individualization** is a term used to describe a series of developments that led to fundamental changes in individuals' everyday lives in the course of the industrial revolution and afterward. In essence, however, they all refer to the observed tendency that the individual gains more and more importance throughout modernity, at the expense of the importance of the collective. The individual detaches herself from traditional collectives of immediate vicinity (e.g., family, neighborhood, village community) and integrates itself into numerically more and geographically widespread social units (e.g., factories, milieus, lifestyle groups), to which, however, a far weaker bond exists. This means that the individual gains more independence from other social actors, but also that the connection, loyalty, and solidarity with them gradually reduced (Van der Loo & Van Reijen, 1990/1992, p. 32). As a result of this tendency, an ideal-typical subject emerges, which also breaks away from traditional biographies and to which the shaping of its own life is given into its own hands. However, increasing scope for decision-making is also accompanied by greater responsibility for managing one's own life. (Rosa et al., 2018, p. 24)

After Van der Loo and Van Reijen (1990/1992, pp. 32-33), **domestication** means that humans have increasingly subjected nature to their will in the course of history, thus decoupling the human boundaries of action from nature. This process is by no means a specifically modern one, as the authors point out. The taming of fire, the development of agriculture, or the utilization of naturally occurring energy sources, such as water or wind power, are much older than modernity. Specifically modern is the intensification of the domestication of external nature and the shift in emphasis towards human nature. With regard to the external nature, the intensification can be shown quite simply by an example. Nowadays, in the global North's major metropolises, it is, in theory, possible to survive without ever leaving the own apartment. Water is supplied directly to the house, food can be obtained through delivery services, and the necessary money can be earned through teleworking over the internet. If the said person left the apartment, she/he would be able to get on the subway in one place and magically reappear on the surface in another to buy strawberries in a supermarket in autumn. In late modernity, the human way of

an exchange-value (represented through money G). Marx sees this classical exchange of goods realized in the circulation process W-G-W. Money mediates as an exchange-value between two use-values of the goods to be traded. In capitalism, this process is reversed. It is no longer money that mediates the exchange of commodities, but the goods mediate between the exchange-values to increase money and generate capital. This interpretation of capitalism by Marx does not play an essential role in the economics nowadays, but for many sociologists and social philosophers it forms the economic basis of modern social phenomena.

life thus appears to be fundamentally detached from external natural conditions, be they temporal or spatial. According to Van der Loo and Van Reijen (1990/1992, . 33), however, late modernity is also characterized by domesticating the animal within ourselves. This tendency can be seen in modern medical care, and the higher life expectancy achieved as a result and can reach as far as the conscious manipulation of the own body or the taming of the own psyche.

Rationalization describes the gradual process of ordering and systematizing reality to make it controllable and predictable. Rationalization as cultural practice in modernity means in particular to pursue an ideal of efficiency and effectiveness through this systematic exploration of different spheres of life. Methodologically, calculatory practices, and »rational« justifications of actions are the driving forces of this process (Van der Loo & Van Reijen, 1990/1992, pp. 31-32). One of the earliest diagnoses on rationalization tendencies within modernity is Weber's (1919/1988c) elaboration on the *disenchantment of the world*, which he attested to the enlightened societies of the global North. By »disenchantment«, Weber means the transition from a primacy of the mystical (e.g., in the form of religion) to a primacy of calculability (e.g., in the form of science), which emerges in the course of the Enlightenment. Weber focused on the significance of this transition for society. He observed that the cultural practice of predictability is not primarily about exploring living conditions in order to improve them, but about the general belief that the world is in its core fathomable and thus controllable. If one would be willing and put enough energy into it, any phenomenon could be traced back to a rational explanation. To put it bluntly: Rationality took over the role of religion in modernity. However, according to Weber, science and rationality do not fulfill an essential function of its predecessor: attributing a superior meaning to the existence. (Weber, 1919/1988c)

3.2 Differentiation

According to Van der Loo and Van Reijen (1990/1992, p. 99), characteristic patterns of super- and subordination can be found in all social structures. Nevertheless, they note that the criteria used for this hierarchical ranking vary from culture to culture and from era to era. Whereas in the pre-modern era, for example, it was primarily the membership of a particular family, religion, gender or profession that was decisive for social classification in the hierarchical system, in modernity stratifying criteria developed that are primarily directed towards the production and sale of goods and thus related to the economic sphere. Earlier, the stratification theory according to Marx (1890/1972) was briefly touched upon, which takes the possession or non-possession of the means of production as the stratifying criterion. In the following, I will discuss how this central stratification criterion of modern society changed in late modernity and what consequences this has for society's structure. Subsequently, it will be discussed how the structural aspect of functional differentiation at least partly seems to change into developments of reintegration in late modernity. This observation leads us to the question of the exercise of power in late modern society. Building on the answer to this question, we then discuss

how a new form of normalization of modes of action and behavior emerged outside the traditional and action-guiding hierarchies and institutions.

3.2.1 From Classes to Lifestyles and Back

Marx's (1890/1972) modern diagnosis of a dichotomously stratified society whose borders become increasingly rigid seemed to lose its significant in German-speaking countries (at the latest³) after the Second World War. As, for example, Lüders (1997, pp. 303-304) points out, it also became apparent in social research that this classical-modern socio-structural diagnosis no longer seemed appropriate to explain the observed phenomena in terms of their underlying causes. The reason for the discrepancy between the class theory after Marx and the more recent findings is an observed fragmentation of super- and subordination forms that no longer fit into the dichotomous bourgeoisie-proletariat pattern but appear in more complex and pluralized forms (Van der Loo & Van Reijen, 1990/1992, p. 105)

According to Beck (2016, pp. 121-123), in the post-war period in the Federal Republic of Germany, class structures suddenly recede into the background. The working class got the opportunity to free itself from its former predestination partially, and individuals were able to shape their lives to a certain extent according to their wishes and ideas. In particular, Beck (2016, pp. 121-123) sees the increase in material prosperity, the rising level of education, and the expansion of the welfare state as the main reasons for this, ultimately leading to a so-called *elevator effect*⁴. By this, Beck (2016, pp. 124-125) means that the standard of living of all classes or social strata improved equally. Through this *elevator effect*, the basis for a flexible shaping of one's own life becomes accessible to a broad mass.

As Van der Loo and Van Reijen (1990/1992, p. 106) point out, this structural change led to a diversification of lifestyles, which each form their own lifestyle groups. The distinguishing features of these groups are less linked to the participating individuals' economic commonalities, but mainly to interests, preferences, or sexual orientations. As will be discussed in more detail later (see subsection 3.3.1), these groups have identity-forming functions but are, at the same time, less binding. Moreover, it is no longer the case that the late modern subject is only involved in one of these groups. Late modern individuals are both synchronically and diachronically part of different groups, each having its own norms and rules (Spreen, 2015, p. 113). In this respect, the late modern subject floats between different groups in the course of life, but also in everyday life, and in each case takes on different social-structural roles in the sense of subordination and superordination.

In this new social structure of lifestyles, it is no longer the membership of a particular social stratum that is the sole criterion of subordination or superordination, but also

³Consider the boom of the 1920s, both in the Weimar Republic and in the First Republic of Austria, which could already cast doubt on the dichotomous conception of social stratification.

⁴Own translation from the German original (Beck, 2016) since the original English translation (Beck, 1986/1992) does not adopt this terminology. The original wording is "*Fahrstuhl-Effekt*"

individual performance (I will go into this in more detail in subsection 3.3.3) (Van der Loo & Van Reijen, 1990/1992, p. 5). As this formulation already suggests, the emergence of lifestyle groups does not mean that the vertical stratification of society has fundamentally changed. Already Beck (2016, pp. 121-122; originally published in 1986) did not equate this tendency with a dissolution of hierarchical social structures. The frequently quoted chapter title “*Beyond Status and Class*” (Beck, 1986/1992, p. 91) merely indicates that the vertical stratification became more permeable and fluid. As the expression elevator effect suggests, the entire social structure is experiencing a rise, without fundamentally touching the inner hierarchical structures (Beck, 2016, pp. 121-122). For example, Bourdieu (1982/1988, pp. 727-752) in one of his major works, as well as Eribon (2009/2017) in an updated form for the early 21st century, were able to show that class affiliation and the selection of lifestyle groups still fundamentally correlates. This means that vertical stratification and class affiliation (although more diversified than before) still manifests itself in processes of inclusion and exclusion of lifestyle groups and specific milieus. Eribon’s (2009/2017) autobiographic analysis shows that a certain degree of vertical mobility, both upward and downward, is possible along the diachronic time axis. However, this mobility is then also linked to disconcerting experiences and the feeling of being an alien body in lifestyle groups of different base classes.

3.2.2 Reintegration Tendencies of Functional Spheres in Late Modernity

While functional differentiation in developed modernity still tended towards the fragmentation of functional spheres, a noticeable countertrend has been emerging for about three decades. This counter-tendency can be illustrated by the dynamics of the labor market and the relationship between the ideal-typical spheres of work and life, differentiated from one another in early modernity. While the modern subject was able to distinguish quite clearly between work and private life based on the spatial and temporal separation, in late modernity, a reintegration of these two spheres suddenly becomes apparent (Rosa et al., 2018, pp. 267-269). New telecommunication technologies made it possible to work from any place and at any time, and flexible working conditions allow for a flexible organization of everyday life. At the same time, it becomes apparent that a new ideal-typical employee emerges in late modernity, which Voß and Pongratz (1998) call *entployee*⁵ This type of employee is characterized above all by the independent arrangement of their work and associated organizational processes. In an increasingly goal-oriented market, companies take advantage of the individuality of the employee. The classic structures of Fordist organization practices of labor are slowly dissolving. They are replaced by content and time-related objectives which have to be fulfilled by the employees. How these objectives are met is the employees’ responsibility. Therefore, the own labor power must be regulated, organized, and applied independently. Workers become an entrepreneurial Self (Bröckling, 2015). The sphere of work execution and the

⁵*Arbeitskraftunternehmer* in the German original publication, translated by the authors themselves in Pongratz and Voss (2003).

sphere of work organization are thus reintegrated and culminate in the functional sphere of the *entreployee* (see subsection 3.3.3 for a more detailed discussion on the emergence of this ideal-typical late modern figure).

What is interesting about this observable tendency is how such a transformation of responsibilities can be implemented without any resistance from those primarily affected, i.e., the employees themselves. After all, this reintegration act means an effective organizational relief for the companies at the expense of the employees. Starting points for answering this question can be found in Foucault's (1975/1995) work on *disciplinary societies*. According to Foucault (1975/1995, pp. 170-194), the societies of early and developed modernity were characterized by the fact that the implementation of regulating social coexistence was realized through disciplinary institutions. Normalization of behavior and the transformation of potential into effective labor are thus externally enforced through structures that guide the individual's action. Examples of such institutions are schools, factories, or – in the most totalitarian form – the prison. All these institutions are conceptualized to standardize human action through their (quite ambivalent) rules and norms within their spatial and temporal context. This makes the strict separation between institutionalized compulsion to act and the subjective shaping outside these institutions of life easy to implement. The productive rhythm is limited to the institution's respective sphere and leaves the sphere of the private almost untouched (Hardt & Negri, 2001, p.24). In other words: the disciplining institutions are easily recognizable as such for the individuals and unfold their action imperatives quite transparently. Thus, the separation of spheres is also easy to implement.

3.2.3 From External Discipline to Internalized Control

Deleuze (1992) took up Foucault's thoughts on the disciplinary societies in the early 1990s and sketched a new mode of power that was already apparent at the time: that of the *societies of control*. The essential difference between the two forms of society lies in the distribution of power. Whereas previously power was enforced through external disciplinary measures in different institutions, power now passes into social relations themselves and unfolds through "*free-floating control*" (Deleuze, 1992, p. 4). In the *societies of control*, power mechanisms are realized by expanding the individual's scope for action. This sounds paradoxical at first since a multitude of possibilities seems to be an expression of individual freedom. Looking again at the concept of the *entreployee*, it can be shown by way of example, how this supposed contradiction may be resolvable. Along the lines of Voß and Pongratz's (1998) elaboration, it becomes apparent that the ideal-typical *entreployee* is by no means subject to the factory's strict disciplinary measures (such as hierarchically structured responsibilities; time cycles in the form of shift work and assembly line speed). Flexible working conditions allow deploying the available labor power tailored to the individual's needs. The employee decides when, where, how long, and with which means work is done. The only relevant factor is that the work has been carried out to the required extent by the deadline defined in advance. The way to achieve this goal is left to the *entreployee*. The fact that this is only a shifting

of responsibilities and thus involves additional organizational effort for the employees recedes into the background given the subjectively perceived freedom of action.

In the light of Deleuze's (1992) interpretation of the dynamics of late modern societies, however, the *entreployee* can only be understood as an exemplary aspect of a more far-reaching change. What Deleuze describes is not a incidental tendency in the modernization process, but a fundamental restructuring of the differentiation paradigm: away from institutional differentiation of functional spheres to ubiquitous self-control of society by its participating individuals. However, this delimitation and amalgamation of the functional spheres requires new regulatory techniques. Hardt and Negri (2001, pp. 22-41) see these in internalized forms of bio-political power techniques. Foucault (1976/2003, pp. 239-264) describes bio-power as a type of governmental power that does not directly and regulatively attempt to prevent unwanted actions to establish social order (such as laws that prescriptively prohibit actions under the threat of physical punishment) but instead tries to support desired action proactively. The goal of bio-political control of the state is to activate the population's productive forces through flanking measures. Whereas in pre-modern societies based on the principle of sovereignty, order was derived from the threat of punishment and ultimately death ("*the right to take life or let live*" (Foucault, 1976/2003, p. 241)), a form of power developed in modernity that establishes social order by rewarding normative behavior/action ("*the right to make live and to let die*" (Foucault, 1976/2003, p. 241)). As described above, until well into the 20th century, the definition of what is considered normal was based primarily on institutionally established norms and rules. Although these norms and rules varied from institution to institution, they were mostly static and spatially and temporally limited within each institution. Link (2009, pp. 58-59) calls this institutional normalization of individual behavior *proto-normalism*. The reference points of normal behavior/action are given a priori and change very little over time. Hardt and Negri (2001, pp. 22-41) describe that the normativity-based bio-political exercise of power in globalized late modernity is lifted from its institutional roots and transferred to the subjects and social relations themselves. This internalized form of bio-power in the *society of control* described by the authors does not unfold through institutionalized proto-normalisms but through self-referential normalization based on mutual adaptation of individual behavior and action. The norm is no longer defined by the imposition of static institutional practices, which are then aspired to by individuals, but the conception of what is considered normal or abnormal is negotiated in mutual public discourse and thus emerges from social relations. Link (2009, pp. 58-59) calls this form of normalization of individual behavior *flexible normrrealism*. The reference points of normal behavior/action emerge a posteriori through experience and are dynamic over time.

3.2.4 Permanent Social Comparison as a Self-Referential Normalization System

Spren (2015, 111-114), referring to Bublitz (2015, p. 54), describes two different kinds of self-referential normalization forms of social action in this context. The first is

Normalization I, which addresses the question of connectivity in subcultural lifestyle groups. As discussed earlier (see subsection 3.2.1) and described in more detail in subsection 3.3.1 with a focus on late modern subject construction, the (late) modern individual is increasingly moving away from traditional and stable social structures in close vicinity in favor of spatially more widespread but numerically more diverse lifestyle groups, which, however, guarantee far less stability. *Normalization I* refers to the flexible adoption of the (sometimes clichéd) norms, rules, values, and interpretative paradigms characteristic for the respective milieu in order to establish the own connectivity. In the course of the appropriation of the specific rules and behavioral patterns, these are increasingly consolidated and thus normalized. On the other hand, *Normalization II* refers to a readjustment of personal development horizons through permanent social comparison with other individuals. Late modern human beings are anxious to put their actions and achievements in relation to those of others. Spreen (2015, pp. 113-114) sees an inherent optimization tendency inscribed in this self-referential normalization process within society. If the norm is no longer given by an institutionalized point of reference around which individual action practices scatter, then the individuals orient themselves towards those strands of action and biographies that appear most promising in a society with regard to dominant ideas of good individual living. Here the question arises as to what these ideas are in the specific case of the late modern societies of the global North. This question leads us directly to the discussion of late modern individualization and thus to the next section of this chapter.

3.3 Individualization

Whereas individualization in classical modernity still meant the dissolution of traditional, concentrically sorted, and standardized lifestyles in close vicinity, Beck (2016, pp. 121-130) identifies a reshaping of the modernization dimension of individualization since the 1960s. His core diagnosis is that modernity is undergoing fundamental changes after the Second World War, but without losing its constitutive characteristics⁶. According to Beck (2016, pp. 249-373), modernity suddenly becomes self-reflective, either by taking up its own outcomes as the object of the modernization process or by suddenly having to deal with its crisis-like side effects⁷. For the present work, however, the former form of self-reflection of modernization is of particular interest. Beck (2016, pp. 205-219) paid special attention to the mosaic-like possibility of shaping personal biographies and thus to one of the most central questions of the late-modern individual: that of one's own identity.

⁶Beck is considered a representative of the hypothesis that modernity has not (yet) entered a postmodern state, as propagated by some poststructuralists such as the aforementioned Deleuze.

⁷An example of such crisis-like side effects is the currently much-debated anthropogenic climate change.

3.3.1 Identity in Late Modernity

According to Rosa et al. (2018, p. 217), the classic modern identity was characterized by three stabilities. Firstly, the social bonds that the modern subject established in the course of her or his life remained mostly constant (e.g., job, family, political positioning). Secondly, new, mostly stable and closed milieus as well as social strata developed in the wake of classical modernization (e.g., working-class milieu, bourgeoisie). Since the members of a particular milieu had similar interests, these collectives provided a form of guidance for the development of the individual identity. Exceeding the boundaries of the own milieu or class was merely the exception. Thirdly, certain standardized biographies developed within these social strata and milieus that offered a frame of orientation for the shaping of one's own life and produced a form of predictability. Thus the own identity could develop along with these temporal milieu-specific biographical templates.

Beck (2016, pp. 205-219) diagnoses that these stabilizing identification characteristics gradually disappear in the post-war period. With special attention to tendencies and developments in the Federal Republic of Germany, he shows that these patterns of identification (which emerged from the modernization process) are becoming the object of modernization themselves and result in a new form of individualization. He sees the reasons for this in the previously discussed *elevator effect* (see subsection 3.2.1). Suddenly, one's own way of life no longer needs to be based on traditional templates, as the scope for decision making for each subject increases due to growing prosperity. As a result, the above-mentioned stabilities of identity erode and lose their relevance:

- Social relations lose their binding character.
- Social stratification becomes increasingly permeable.
- In some cases, the boundaries of social strata blur and merge into milieus, subcultures, and lifestyle groups (see Burkart, 2006).

In summary, it can be said that these developments opened up the possibility of a more flexible shaping of biographies. At the same time – and this is the flip side of this second wave of individualization – the new possibilities for shaping the own future are also associated with increasing responsibilities and the pressure to act. Due to a lack of patterns and blueprints, freedom of action turns into a compulsion to act, and the freedom to make decisions increases the degree of responsibility for choosing the right and rationally wisest life decisions. Those who act wrongly must bear the consequences themselves (Beck, 2016, pp. 211-219).

“In the individualized society the individual must therefore learn, on pain of permanent disadvantage, to conceive of himself or herself as the center of action, as the planning office with respect to his/her own biography, abilities, orientations, relationships and so on.” (Beck, 1986/1992, p. 135)

As Rosa (2015, pp. 363-364) points out, the reduced binding character of established social relations means that these patchworked biographies can also be more easily revised. This results in life courses that show no permanence, i.e., are characterized by continually

changing social relations. Consequently, Rosa sees the formation of – what he calls – a *situational identity* of the late modern individual which he describes as follows:

“[...] *it is no longer the case that one is a baker, conservative, or Catholic per se. Instead one is such ‘for the moment’ and for tendentially shrinking periods of a nonpredictable length. One was something different and (possibly) will be something else.*” (Rosa, 2005/2013, p. 233)

The effects of these time-instabled and patchworked biographies on subject formation are, on the one hand, the loss of the ability to plan one’s way of life. The more individual and reversible biographies become, the more difficult it becomes to evaluate decisions for their permanence and future consequences. Thus, late modern ways of life are under permanent suspicion of contingency since the longer-term effects of decisions and actions cannot be imagined. Secondly, this simultaneous floating between different contexts and roles is linked to a loss of time-stable institutions of identity formation. Taking on different roles in different contexts makes it difficult to form and articulate consistent overarching identity characteristics. The paradoxical diagnosis is that providing freedom of choice to determine who or what one wants to be leads to a crisis of subject construction. The late modern personality diagnosis »I am many« can also be read as »I am nobody«, since a claim to authenticity cannot be made on situational identities. (Rosa, 2015, pp. 362-390)

3.3.2 Self-Thematization, Autonomy and Self-Help

According to Burkart (2006), individualization is closely linked to an increasing application of self-reflective practices by individuals. He shows that the identified crisis of identity can also be read analogously to the form and extent of self-thematization practices throughout the history of modernity. Following Hahn’s (1982, 1987) works, Burkart argues that the phenomenon of differentiated self-reflection as a means of constructing identity requires specific standardized cultural techniques since individuals would not do this of their own accord. Burkart (2006) calls these cultural techniques institutions of self-thematization. They serve as an offer to realize the *Self* and are intended to construct identity by understanding one’s own biography. These institutions can – to some extent – already be found in the Christian sacrament of confession, even if here the biographical focus of the individual was less important⁸. This is followed (chronologically) by other institutions such as psychotherapy, self-help groups and other forms of group therapy as well as advice literature. A remarkable aspect is that the methods of these newer institutions seem to be gradually turning away from experts’ guidance. At the same

⁸See Hahn (1982) for further details. It should be mentioned that the meaning of confession, as an institution of self-thematization, has changed over time. While at first, it was used more as a means for absolution and thus for redeeming the past to attain salvation, in the course of the Reformation, it took on a different character. Suddenly, it was no longer the individual sin that was the focus of confession, but rather one’s own life conduct was subjected to a sacred evaluation. This can be regarded as the beginning of self-thematization with a biographical focus in the form of the confession. Nevertheless, the goal of this type of self-thematization still lies in the salvation of the soul after death and not in the reflection of one’s own life. A similar study was conducted by Foucault (1988), which reads analogously to Hahn’s work.

time, Burkart (2006) notes, the emphasis of the techniques is shifting. Newer forms of therapy and consulting are no longer aimed solely at cognitive-rational or moral reflection but also at expressive and performance-oriented reflection. Burkart (2006) concludes that corporeality (in the sense of the relation to the own human body) and performance capacity are emerging as new dimensions of identity formation.

Straub (2019) impressively describes how the lack of orientation diagnosed by Beck and the urge (or compulsion?) for autonomy turns into something at the end of which he sees the forming of so-called *autonomous subjects*. In doing so, he provides an interpretation of Burkart's observations regarding the newly emerging identity dimensions. Straub (2019) argues that the late modern *Self* is the product of an all-encompassing therapeutic culture that emerged in the post-war period. In the course of the popularization of Humanistic and – subsequently – Positive Psychology, a reinterpretation of autonomy has taken place. Autonomy, in the classical-philosophical sense, means self-determination driven by general reason, according to Straub. However, this is by no means to be equated with a complete liberation of all social bonds in favor of an increase in one's freedom of action. However, the latter had been promoted for decades in the therapy and consulting culture of Humanistic and Positive Psychology⁹. Since the 1950s, these movements have increasingly advocated a programmatic shift in psychotherapy away from the sole treatment of pathologies and towards an alleged improvement of living conditions for all people through psychotherapeutic measures. This, in turn, implies a general imperfection and a need for improvement of the human being (See subsection 3.4.3 for a broader discussion on the idea of the imperfect human). The propagated promise of autonomy and self-realization – in the sense of a detachment of the *Self* from the *Others* – became the central subject of this newly emerging culture. The psychologization of self-thematization, which aims at freeing individuals from all social obligations, quickly gained popularity under his promise of an autonomous and emancipated lifestyle¹⁰

Here, however, Straub (2019) sees a central contradiction: in the therapeutic culture, the presumed autonomy can only be realized through external help and thus heteronomously.

⁹A somewhat striking example of this detachment-idea is the so-called Gestalt prayer. This mantra was developed by the psychotherapist Fritz Perls as the central motto for his psychotherapeutic concept of Gestalt therapy. It is quoted by Straub (2019) and should also be cited here to underpin the argument: *“I do my thing and you do your thing; I am not in this world to live up to your expectations; And you are not in this world to live up to mine; You are you, and I am I; And if by chance we find each other, it's beautiful; If not, it can't be helped.”* (Perls, 1969/1977)

¹⁰As can be seen from this paragraph Straub (2019) (but also Illouz and Cabanas (2019), for example) is quite critical of this tendency. His criticism refers – as already indicated, but here again, explicitly emphasized – to the methodological illusion applied by Humanistic and Positive Psychology. For Straub, autonomy means being able to dispose of one's own life as an individual in a free and enlightened manner. However, he sees this not realized in mere detachment from social relationships to other people. Quite the opposite: autonomy also means dealing respectfully with the autonomy needs of the others while at the same time being free to enter all those bonds and relationships that are established between two or more social actors by mutual and informed consent. Honneth (2015) goes even a step further, arguing that individual freedom and autonomy should be realized and secured through solidarity among fellow human beings and thus through a holistic individuality via all-encompassing social relationships. He sees this as the solution to the conflicting claims of the French Revolution (*Liberté, Egalité, Fraternité*).

For this reason, he uses the term *autonomous subjects* to describe this novel form of self-relationship. Straub (2019) (but also Illouz and Cabanas (2019), for example) here identifies a central caesura for the development of the late modern culture of self-thematization. Ideal-typically and roughly schematically, this development can be described as follows:

With the gradual dissolution of modern institutions of identity, people are increasingly turning to self-reflective practices to make their own biography comprehensible. Humanistic psychology, which seeks to expand the focus of psychotherapeutic methods for »improving« the lives of all people, offers a new form of self-thematization. In particular, the promise of autonomy propagated in these therapeutic practices helps the emergence of a far-reaching culture of therapy and consulting, which soon no longer relies solely on the classic method of individual sessions, but also on group therapies, self-help groups and advice literature. However, since the autonomy propagated is primarily based on self-actualization (i.e., on a general urge for improvement) and self-realization (i.e., on an all-encompassing individual freedom that is not restricted by social bonds), a new late-modern Self in the form of the *autonomous subject* emerges. It is characterized by egocentric (Straub even speaks – though somewhat pointedly formulated – of narcissistic) action and an urge for self-reflective enhancement and optimization, which, if possible, should be realized by means of self-help.

3.3.3 Self-Optimization

The liberation of late-modern humans from institutionalized frameworks thus creates a subject in a permanent search for identity(ies), which, in the ideal-typical case, independently resorts to self-thematization practices and strives for autonomy in the sense of a detachment of social relationships in favor of its freedom of action. As already indicated, throughout this process, something happens with the relationships between the individual subjects. In the previous section, Spreen's (2015, pp. 105-113) diagnosis was taken up according to which social norms are no longer established according to institutional proto-normalisms, but rather through the self-referential *Normalization II* as described by Bublitz (2015, p. 54), i.e., the permanent social comparison of own behavior with those of the others. Spreen (2015, p. 113-114) sees an inherent logic of optimization inscribed in this tendency since the individual subjects compare their own »achievements« based on predominant cultural values with those of others and orient their actions accordingly. In the following section, this tendency will be examined more closely and its underlying causes will be worked out.

As mentioned earlier, a new ideal-typical form of wage laborer is emerging in late modernity, which Voß and Pongratz (1998) refer to as *entreployee*. Voß and Pongratz (1998, pp. 133-139) see the microeconomic basis for this development in the rationalization of work and production processes. Taylorism, i.e., the form of work organization that dominated from the early until around the last third of the 20th century, increasingly proved to be incapable of scaling. Fordist influenced Taylorism aims at a rigid temporal clocking of work processes while at the same time strictly separating the individual work

steps, which leads to a tight hierarchical organizational structure of companies. With the basic capitalist demand for constant economic growth and the associated increase in mass production, the administrative workload of the Fordist-Taylorist organizational structure increased disproportionately. The costs of the additional effort to activate, organize, and control the potential labor power in a targeted manner are increasing faster in growing enterprises than the capital surplus-value generated from growth. Moreover, the individualization of lifestyles clashes with the strict regulatory regimes of Fordism (Dörre, 2012, p. 51). These microeconomic trends are accompanied by a macroeconomic reorientation of companies away from the primacy of production economics towards the primacy of market economics. For Dörre (2012, pp. 55-62), this change is linked to the increasing relevance of the financial sector. In contrast to the prognosis of early theorists of the financial-market-based New Economy, there was no democratization of capital through the financial markets, but rather a continuation of the Taylorist concentration of capital, this time, however, not in the hands of the production sector, but the hands of the investors active in the finance markets. These investors generate a capital surplus that flows back into the production sector through investments. For production, this means a fundamental reorientation. While Fordist production is primarily oriented towards market demands and its own (temporal, production-means specific) capacities in the here and now, capital-market oriented management aims at yield and profit in the future. Thus there is a reversal of the relation between production performance and profit margin. It is no longer the production capacity that determines the gained profit, but the pre-defined profit margin to be achieved at a future date becomes the premise of the work invested in the corresponding period.

The establishment of this market and performance orientation and the crisis of the Fordist internal organization of work led to changes in the operational control forms and the organizational structure within enterprises (Dörre, 2012, p. 60-62). For a more efficient organization of the workforce, relatively autonomously acting sub-organizational units are formed in companies, whereby the Fordist hierarchical structures are broken up and responsibilities are pushed »downwards« the hierarchy. In the final instance, the responsibilities are transferred to the workers themselves, who are then both planning office and executing force. In the sociology of work, this tendency is often referred to as the *subjectivation* of work (Kratzer & Sauer, 2003, pp. 91-92). *Subjectivation*, because it enables businesses to have broader access to the subjective skills of the individual, even beyond the actual core qualifications of the respective job. The person is thus integrated into the production process holistically and not only in a special function (Kratzer & Sauer, 2003, pp. 92). Besides the profit margin to be achieved, other control measures like performance scores or benchmarks were introduced, according to which the performances of organizational sub-units can be controlled and compared. At the same time, an opening to market-shaped inter-organizational relationships can be observed. Companies start to concentrate more on their own core competencies. Other, formerly internal, services or secondary production chains are being externalized, either on a national or international level (keyword offshoring). (Dörre, 2012, pp. 60-62)

As this – admittedly heavily streamlined – description of the financially dominated accumulation regime is meant to show, an economic structure has been established in the last half-century that forms the basis for a competition-based regulatory system. (Dörre, 2012, pp. 63-64). Organizational sub-units stand in permanent competition with each other internally and with external institutions with similar functional orientations. Internal performance scorings and the essential requirement of future-oriented objectives generate permanent pressure to perform, since one always runs the risk of being restructured or completely outsourced. Ultimately, this pressure is also passed on directly to the employees, since political measures such as the relaxation of labor law, the dissolution of collective agreement regulations and the dismantling of the welfare state put the question of their existence at stake. Lessenich (2012, pp. 153-167) describes these accompanying political measures as an act of work activation performed by the state and the resulting social structure including the described dynamics as *Active Society*. The political framework conditions are meant to activate dormant labor potentials. These political measures are also the reason why the competition-based regulatory regime works profitably from an entrepreneurial point of view and, at the same time, is capable of hegemony, despite apparent disadvantages for the employees. In the case of individual failure, one's status or, in extreme cases, one's very existence is at stake. »Take it or leave it« is the general credo of the competition-based regulatory regime. Further, the relaxation of labor law is accompanied by the promise of individual autonomy. Short-time and part-time work, flexible working hours, or the increasingly common practice of concluding fixed-term employment contracts are given positive connotations in the light of individualization. However, the flip side of this autonomy is the increasingly precarious nature of working and living conditions (Dörre, 2012, pp. 65-68) Further, the insecurity of singular worker-nomads cannot be regarded in isolation. Temporary employees or contract workers have a disciplinary effect on the core workforces, which try to ward off the danger of having to run from job to job due to a lack of commitment. Thus, the competition-based regulatory system does not stop at the relationship between individuals but pushes them into antagonistic positions on the labor market. The own labor power represents the commodity to be sold and can be traded against potential security. Voß and Pongratz's (1998) *entreplooyee* is the ideal-typical figure of this new »normal employment« arising from flexibilized capitalism.

Given this diagnosis, it is not surprising that Spreen (2015, p. 113) identifies an inherent optimization character in permanent social comparison. Proto-normalistic schemes of action, but also connecting forms such as solidarity, as they prevailed within communities, classes or strata, are increasingly eroding in individualized late modernity and are compensated by competition-based systems of comparison. In a climate of socio-economic insecurity, in which one's own identity, social status or even necessary living conditions are on the brink of collapse, individuals find themselves exposed to a competition for resources. The permanent social comparison provides feedback on their situation and guides their actions to improve and maintain their social status. Because even maintaining the status quo is always linked to »improvement« or optimization of one's actions. Rosa (2018, p. 46) uses the terminology of *dynamic stabilization* to describe this phenomenon.

In a society where the performance optimum along the time axis is constantly being revised further upwards, the subject at a standstill, i.e., the subject that is not improving or optimizing itself, automatically falls back. In order not to run the risk of being counted among those »left behind« individuals, it is necessary to adapt the own performance to the given requirements. De facto this means to constantly educate oneself, to keep one's body fit and healthy, to acquire new skills, to act flexibly according to economic requirements and to acquire socially acceptable behaviour¹¹.

3.4 Domestication

While pre-modern humans were still in a very close dependence on the nature surrounding and given to them, in the course of the modernization process there is a successive decoupling of human action from natural factors. This can be explained by new technical achievements, but also by the previously mentioned tendencies towards differentiation, which are strongly associated with a functional separation of human labor (Van der Loo & Van Reijen, 1990/1992, pp. 196-197). Technologies such as the steam engine overcame the limitation of human labor power, the railway made it possible to overcome the natural limitations of the physical radius of action, communication technologies such as the telephone helped to surpass the communication barriers and measures such as the regulation of wild water, systematization and rationalization of food production or the structural protection of mountain slopes make a far-reaching taming of destructive natural forces possible. According to Van der Loo and Van Reijen (1990/1992, pp. 202-205), this transition in modernity can be described as a transformation of a state of »participation« towards »distancing«. Humans no longer understood nature – also due to the tendencies of rationalization – as a given, and hardly influenceable habitat in which they themselves are integrated as part of it, but as a resource that can be controlled and in many ways be cultivated according to their own will. This tendency goes hand in hand with a differentiation of the categories of nature and culture, which today are often perceived as dichotomous, whereby humans, as central actors of the latter, make nature their object of investigation and thereby recognize and realize their possibilities of influence.

This decoupling of modern civilizations from the natural is often perceived as an emancipatory act without side effects. However, this emancipation, i.e. the detachment of humans from the external and internal physical forces of nature, is always accompanied by new dependency relationships. Van der Loo and Van Reijen (1990/1992, pp. 196-199) identify three areas that are particularly affected: Dependence on technological systems of domination that keep the forces of nature under control; dependence on other indi-

¹¹Lessenich (2012, pp. 159-167) calls this the *neo-social* political governmentality in the *Active Society*. Not only the economic sphere is subjectivized in the course of the emergence of flexibilized capitalism, but also the welfare state. Here, in turn, bio-political strategies of self-control are applied. A good example is the stigmatization of people receiving the unemployment benefit Hartz IV in the Federal Republic of Germany, whose alleged inactivity is considered »antisocial« and whose re-entry into gainful employment is considered to be »in the service of all«

viduals in social systems through functionally differentiated division of labor; increased self-discipline in the sense of mastery of the own action and behavior. While the first two dependencies have already been the subject of previous sections (for a discussion on technological dependencies, see section 1.2; for a discussion on the dependency on the social system, see section 3.2), the last point, i.e., the increasing need for self-discipline, will be dealt with in greater detail below. It will provide the basis for a short discussion on self-alienation. Finally, some considerations on domestication in the context of the perception of humans as deficient beings are discussed.

3.4.1 Drives, Civilization and Self-Discipline

Van der Loo and Van Reijen (1990/1992, pp. 228-234) base their discussion of the increasing need for self-control and self-discipline with increasing domestication on the one hand on late writings of Sigmund Freud (1927/1952b, 1930/1952a) and on the other hand on Norbert Elias' (1939/2000) theory of *The Civilizing Process*. Freud states that culture can only emerge when humans submit to a renunciation of drives. Without the mastery of one's own drives, the mastery of nature and thus the emergence of culture would not have been possible. This diagnosis seems quite plausible, especially with regard to Freud's three-instance model of the *Id*, *Ego* and *Super-Ego*. Overcoming and keeping in check the *Id*, i.e. the affective-animal pleasure principle, through the *Ego*, i.e., conscious perception and thinking, is a central unicum of the human species. Along the lines of this statement, it could be argued that increasing domestication is always linked to an increasing suppression of drives, i.e. increased mastery of the *Ego* over the *Id*. The problem with this, however, is that the existence of animalistic drives is quite controversial in psychology. Taking into account Elias' (1939/2000) theory of *The Civilizing Process*, Van der Loo and Van Reijen (1990/1992, pp. 232-234) lead this diagnosis away from the concept of drives and take up the idea of dependency relationships between individuals. The more the human being became dependent on others in the course of differentiation, the more important the suppression of emotions, moods and impulsive action became. In the course of modernity, humans are confronted with more and more other humans as well as new situations. They have to learn to keep their own pleasure principle in check and to discipline themselves to meet certain expectations in order to find their place within the social structure.

3.4.2 On Estrangement of the Own Nature

Inspired by Freud's works on self-discipline (1930/1952a) and social taboos (1912/1952c), Horkheimer and Adorno (1944/2002, pp. 1-34) in their *Dialectic of the Enlightenment* set out the thesis that the socialization of nature, i.e., the transformation of natural processes into cultural goods, is linked to far-reaching experiences of estrangement. According to Rosa (2018), estrangement describes a "specific form of world relationship in which subject and world are indifferent or hostile (repulsive) to each other and thus internally

*disconnected [...] so that the world appears cold, rigid, repellent and non-responsive*¹² (Rosa, 2018, p. 316). For Horkheimer and Adorno, this experience of estrangement or alienation is not limited to modernity. Rather, it describes the course of the entire history of the human species, which, however, reaches its climax so far in modernity with the thoroughly rationalized “*administered world*” (Horkheimer & Adorno, 1944/2002, p. xii). Particularly with regard to human nature, Horkheimer’s and Adorno’s work seems relevant to the work at hand. The philosophy developed by the authors constructs the history of humankind as a successively increasing differentiation between subject and object, i.e., between human and nature. Since the emergence of civil society, humans have no longer been regarded as part of nature but exist outside of it. Even the own nature is no longer perceived as such but slowly becomes a foreign objectivity, which can be investigated, and over which power can be exercised.

This objectifying transformation process of human nature (which is methodically implemented through rationalization) can be exemplified by Riha’s (2004) medical-historical elaboration on the use of medical technology throughout the 19th and 20th centuries. She outlines how medicine increasingly turned away from the actual patient as a human subject and – for example, in diagnostic methods – prioritizes scientific and technologically produced visualizations, such as x-rays and later MRIs, or mathematical models, such as fever or blood pressure curves. In this respect, the human being is no longer perceived as a subject with a specific range of symptoms, but as an object with dysfunctions that need to be examined. These methods led to the emergence of a new form of pathology that only recognizes disease if it is technically or mathematically evident, regardless of the patient’s subjectively perceived symptoms. Conversely, however, this also means that those who feel healthy can be given a pathological attestation if the visualizations or numbers can prove it. The pros and cons of such practices could be debated, but this example shows that the relationship between the human being and its body in late modernity became a thoroughly torn one. Riha argues that the tendency described above is evident among doctors but also increasingly among patients: Perceived symptoms require visual or numerical evidence to make us believe in our illness or to determine our well-being.

As can be seen from this example, the body’s perception as foreign objectivity also unfolds in experiences of estrangement by the patients. For Horkheimer and Adorno, this is the natural consequence of any socialization process, as “*Human beings purchase the increase in their power with estrangement from that over which it is exerted*” (Horkheimer & Adorno, 1944/2002, p. 6). Further, they point out that these estrangement experiences block the path to reflection on the controlled object, thus also on one’s own body. Riha (2004) points to typical paraphrased conversations between doctors and patients, which, according to her, are not uncommon these days. Doctor: “*How are you feeling today?*”; patient: “*I don’t know, the lab results aren’t back yet.*”

¹²Own translation from German due to lack of an official translation of the work. The original wording is as follows: “*spezifische Form der Weltbeziehung, in der Subjekt und Welt einander indifferent oder feindlich (repulsiv) und mithin innerlich unverbunden gegenüberstehen [...] so dass die Welt stets kalt, starr, abweisend und nichtresponsiv erscheint*” (Rosa, 2018, p. 316)

One may have noticed that in the section on individualization (section 3.3) it was worked out that the desire to reflect oneself is becoming increasingly important in late modernity in order to act correctly and maintain the own identity(is), but that Horkheimer and Adorno attested a general inability to reflect on the estranged. In view of the central thesis of the *Dialectic of the Enlightenment*, however, these two diagnoses do not appear to be contradictory at all, but rather give the treatise its name. The dialectics of the Enlightenment lies in the fact that mastery by means of objectification over certain parts of nature increases, and not reduces, the power those parts exercise over societies and subjects. Nature can be made controllable to a certain extent, but it can never be completely overcome; it merely recedes into the background. “*Any attempt to break the compulsion of nature by breaking nature only succumbs more deeply to that compulsion*”¹³ (Horkheimer & Adorno, 1944/2002, p. 9). The subjugation of nature is, at the same time, also self-subjugation since humankind itself is nature. This, in turn, also increases the extent of self-alienation. The more objectified knowledge about the body and the Self is brought into experience, the more the subject becomes estranged from itself and the more difficult the experiences of »being in harmony«, »being someone«, »having done the right thing« or »feeling a certain way« becomes. The way out of this misery seems clear from the Enlightenment perspective: find out more, reflect more, and rationalize more.

In the sociology of the body, the mental distinction between body and subject in late modernity is a well-known phenomenon. However, here too, dialectical relationships can be identified. As, for example, Liebsch’s (2017) contribution to identity and corporeality shows, for the late-modern individual, the human body is both an estranged object on the one hand and an integral part of subjective identity on the other. As an object, the body is to be interpreted in the sense that it can be subordinated to the consciousness of the subject and is thus understood as deliberately malleable and transformable. These transformations are often performed along the lines of normative-aesthetic ideas. At the same time, these normative-aesthetic signs in the form of the body are publicly shown and are meant to create an identity within society through signaling (sub)cultural belonging.

3.4.3 Deficits, Prostheses and Technologies

To err is human. People and deficits always belonged together, although what is considered a deficit has changed throughout history from an anthropological point of view (Heßler,

¹³In my opinion, this general diagnosis of Horkheimer and Adorno can be seen in the global pandemic of the SARS-CoV-2 virus, which is ongoing at the time of writing. The fast spread of SARS-CoV-2 worldwide shows how vulnerable the cultural concept of a globally networked, modernized world has made itself to nature. It also shows how painful the experience of powerlessness is when nature suddenly reappears and becomes the linchpin of individual and collective action. The juxtaposition of economic interests and public health in the discourse on countermeasures to the pandemic is particularly interesting since it implies an equivalence of these two spheres. The same could be said about the discussion on countermeasures to global warming – another excellent example of Horkheimer and Adorno’s theory. In my opinion, this is an expression of underestimating natural forces under the influence of an assumed superiority of cultural achievements.

2020). It was Marshall McLuhan (1964/1994) who gave the discourse on technology use a media-theoretical accent with regard to human deficits. According to McLuhan, technology needs to be interpreted as an artificial extension of the humans that mediates between them and their environment. For McLuhan, the basic idea of technology use is always to be understood as a countermeasure to the self-perception of humans as deficient beings. The Concept of deficient beings states that humans are poorly adapted to their environment compared to other species and therefore try to compensate this biological deficit with cultural achievements. Based on this premise, he interprets any technology (in his terminology, technology is always media) as a prosthesis with the help of which biological deficits are compensated. Even if one does not want to agree with the assumption of an intrinsic human nature striving for (any kind of) self-improvement¹⁴, the prosthetic interpretation of technologies and media provides another fruitful theoretical foundation for this thesis.

If this prosthetic interpretation of technologies is taken out of the sphere of biological necessity and into a sphere of cultural world views, a further aspect of the domestication of the Self can be worked out: The use of technologies to compensate for and possibly also improve subjectively perceived deficits. The idea of humans as culturally created and not biologically predisposed deficient beings is, for example, worked out by Anders (1956/1988), who perceives humankind as *outdated* compared to their cultural achievements. In the course of the mechanical industrialization efforts in the 19th and 20th centuries, the idea spread that humans, in contrast to the superior machines in factories, are deficient (Heßler, 2020, pp. 304-305). Based on this observation, Anders (1956/1988, pp. 31-35) takes up the idea of the human as *faulty construction* and argues that such a view of human beings can only arise under the conditions of mechanization. Only in comparison with the externally constructed, mechanically precise, and tirelessly working machine can the human, de facto not externally formed, be regarded as constructed on the one hand and even faulty on the other.

According to Anders (1956/1988, pp. 35-41), the comparison with the machine and the realization of the resulting imperfection leads to – what he calls – a *Promethean Shame*. However, humans do not try to accept this perceived inferiority towards their products. Following the dream of becoming hybrid and co-substantial with their technical achievements, they use the practices of *human engineering*: to explore their own limits. This exploration, however, does not serve to define the limits themselves, but always to find one's own weaknesses and thus to transgress the limitations. In this way, the human engineers want to get in line with their self-made machines and thus push their own limitations further and further. At the same time, however, they are also moving further and further away from their nature. According to Anders (1956/1988, p. 39), there are no limits to the efforts and inventiveness in finding methods to counteract the identified limitations.

¹⁴Like Harrasser (2014, pp. 67-74), I have doubts about an intrinsic, biological drive for (self-)improvement by media or technology. As this work aims to show, this tendency must be understood primarily as a cultural rather than a biological phenomenon in late modernity.

In this respect, it is not surprising that there are now efforts to eliminate these perceived shortcomings with the very things from which they were derived: Technology itself. This can be seen, for example, in the prosthetics described by McLuhan (1964/1994). However, the boundaries between mere compensation and systematic improvement seem to become blurred. Nowadays, we see that the ideas of the human as a deficient being combined with the possibilities of late modern technical progress seem to be flourishing anew in the philosophical thought and practice around Cyborgs and Transhumanism. These schools of thought are deliberately trying to transcend human limitations with the help of technological systems¹⁵. (Heßler, 2020, p. 306)

3.4.4 On Activation of the Deficits

Beyond the general conception of humans as deficient beings, there exists the modern self-understanding that every individual physical or cognitive impairment outside the norm is understood as a flaw or deficit. Through the hegemonic perception as such, it seems necessary to restore those impairments to a normal state with scientific and technological solutions (Nikolow, 2020). But what does it mean to be normal? In the case of late modernity, this question has already been answered before. The normal state in late modern societies of activation can be seen in the ideal-typical figure of the *entreplooyee* as described by Voß and Pongratz (1998). Beyond the sphere of gainful employment, other activation tendencies can be identified, that explicitly aim at deficient subjects in the sense described above.

Denninger, van Dyk, Lessenich, and Richter (2014) offer an exemplary study of how the notion of the culturally perceived deficit »age« transformed in late modernity and, along with the dominant development towards an active society, culminated in what they call *Alterskraftunternehmer*¹⁶ (Denninger et al., 2014, p. 13). The study shows how the politically and socially discursive image of old age in the Federal Republic of Germany changed from the 1950s to the 2010s in parallel with the reorientation of the welfare state as an activating state. In doing so, they developed three contrasting dispositifs that have dominated public discourses about old age in certain periods: the *retired age*, the *rest-less age*¹⁷, and the *productive age*. (Denninger et al., 2014, p. 180)

¹⁵As Heßler (2020) points out, the transhumanist movements stand in the tradition of the view of humans as biologically predisposed deficient beings. From this point of view, any technological extension of humans needs to be understood as compensation and not as improvement. Improvement would mean that humans expand their true nature through technology. However, from the perspective of humans as biologically predisposed deficient beings, human nature lies in extending oneself. Therefore, from a transhumanist point of view, using technology to broaden one's capabilities must be considered natural and not as an improvement.

¹⁶The German publication draws an analogy between the *entreplooyee* as an activated employee, *Arbeitskraftunternehmer* in German, and an activated retired person as *Alterskraftunternehmer*, which may be translated to *entretiree*.

¹⁷Sadly, the original German publication's puns and metaphors were not transferred (which admittedly would have been a difficult task) to the English paper from which I have taken the translated terminologies (Van Dyk, Lessenich, Denninger, & Richter, 2013). The German word *Ruhestand* for retirement (*retired age* in the English publication) has the literal meanings of either »being in a resting state« or »resting

From the 1950s until well into the 1970s, the dispositif of old age as *retired age* developed analogously to the development of the welfare state. It is strongly linked to the connotation of a deficient state, which was quite legitimate given the back then still dominant heavy manual work and the associated physical wear of the body. Old age was socially framed as a role-less state in which the aging person remains in a resting standstill. The functional relation to society was that of a need-for-help: people in old age are dependent on society's help. (Denninger et al., 2014, pp. 181-183)

Since the 1980s, the image of the deficit has been accompanied by a form of activation of older people. This dispositif has been flanked by the transformation of the production economy into a service economy, whereby physical wear in the course of gainful employment decreased. The deficit of the aging person is no longer understood as a biological destiny. By actively working against it, the physical decline can be slowed down even into advanced old age. This applies to both mental and physical decay. »If you rest, you rust« is the guiding principle of the *rest-less age* dispositif. The narratives of physical fitness, lifelong learning, self-empowerment, and now and then a trip to distant parts of the world paint the picture of an active and positively connoted old age. At first, the functional relationship to society changes very little. Older people have rendered their services to society and, in return, are supported and secured by it. However, it is already apparent that the elderly are being made more responsible for not becoming a burden on the welfare state and activating themselves independently. The slogan »If you rest, you rust« is already interwoven with the idea that the resting body that does not keep itself physically and mentally fit could become a burden to society. (Denninger et al., 2014, pp. 183-187)

From the beginning of the 1990s until the early 2010s, a renewed change in the dispositif of old age is emerging, analogous to the development of the active society. The dispositif of *productive age* propagates that older people should be actively and productively engaged in the public's service, not despite, but rather because of their older age, their experience, the physical and mental fitness activated prior by the rest-less age, and the time available through retirement. These trends can be seen, for example, in the rising statutory retirement age. Another example is the growing call for grandparental childcare to enable parents to return to work early (Denninger et al., 2014, p. 192). The functional relationship between society and aging people is reversed in this narrative (and increasingly also in practice) compared to the previous dispositifs: Older people are encouraged – virtually in return for their financial security – to put their potential in the service of the general public. (Denninger et al., 2014, pp. 187-190)

standstill«, while the negated form *Unruhestand* (*rest-less age* in the English publication) may mean »being in a state of restlessness« or »restless standstill«. The authors cleverly build their textual elaboration around these metaphorical ambiguities.

3.5 Rationalization

According to Van der Loo and Van Reijen (1990/1992, p. 118), rationalization as a cultural practice means the ordering and systematization of reality to make it predictable and plannable. In contrast to pre-modern societies, modernity with regard to cultural practices is characterized by the attempt to decimate the influence of categories such as fate or coincidence on human action through rationalization. In this respect, rationalization can be understood as the cultural and paradigmatic foundation of domestication – similar to differentiation as the structural basis of individualization. In this section, rationalization will be reconstructed genealogically up to late modernity, starting from Weber’s observation of the *disenchanted world* discussed above. With recourse to key action-theoretical diagnoses of respective periods, this is intended to show how rationalization as a world view changed throughout modernization from a pre-modern primacy of *value-rational* action to the primacy of *means-end-rational* action and ultimately to *instrumental reason*. Based on this observation, I will discuss the question to what extent rationalization, initially primarily an institutional practice, is transferred to individuals’ lifeworld. Finally, it will be shown that in today’s societies of the global North, the datafication of the lifeworld as a methodological expression of rationalization has taken on a central cultural significance.

3.5.1 Genealogy of Rationalization As Worldview

The core idea of rationalization is contained in the word itself. The Latin word and prefix *Ratio* describes a method, plan as well as prudence and reasoning (“ratio”, 2020). Rationality generally describes “*the ability to think clearly and make decisions based on reason rather than emotions*” (“rationality”, 2020). Rationality received its upswing in the course of the Enlightenment and was declared by Kant (1784/1991) to be its central program:

“Enlightenment is man’s emergence from his self-incurred immaturity. Immaturity is the inability to use one’s own understanding without the guidance of another. This immaturity is self-incurred if its cause is not lack of understanding, but lack of resolution and courage to use it without the guidance of another. The motto of enlightenment is therefore: Sapere aude! Have courage to use your own understanding!” (Kant, 1784/1991, p. 54)

Weber’s finding of a transition from a pre-modern mythical explanation of the world to a modern scientific explanation of the world, already briefly hinted at earlier, is described by him as a change of *Ratio* behind individual and collective action. Weber (1921/1988b, pp. 565-567) uses the ideal-typical concepts of *value-rationality* and *means-end-rationality* to describe these two types of reason. Value-rational action is characterized by the fact that the underlying deliberations are based on specific values such as norms or moral principles. This type of action is rational because the question of sense is actively asked and reasoned. It is value-related because the motives and objects of reasoning are based on predefined categories and principles, such as »good« or »bad«, »beautiful« or »ugly«, »important«

or »unimportant«. The direct outcome of the action plays no central role. According to Weber, pre-modern societies were characterized by a primacy of value-rational action, since sacred values guided the individual's actions.

In contrast, Weber's (1921/1988b, pp. 565-567) means-end-rationality describes a type of action that aligns its motives and considerations with a predefined end or purpose. Accordingly, rational action is one that aims to fulfill the intended purpose. Thus, the focus is on weighing up ends, the means that promise to achieve them, and the resulting consequences. According to Weber, modernization is characterized by the fact that means-end-rationality successively displaces value-rationality or makes it appear secondary. In modern societies, the question of the sense of action is thus largely ignored. Modern individuals and institutions concentrate on the ends and optimize the means to achieve them. Thus Van der Loo and Van Reijen (1990/1992, pp. 127-131) state that the valuation of action in means-end-rationality results from its methodical effectiveness. For the authors, technology, science, and bureaucracy must be regarded as outcomes of this primacy of means-end-rationality.

In the middle of the 20th century, Horkheimer (1947/2007, pp. 16-72) formulated the thesis that rationalization had changed by a further stage as modernity progressed. The early-modern change from the primacy of values to the primacy of ends would change to the primacy of means. Horkheimer attempts to describe this new kind of rationality with the term *instrumental reason*¹⁸. This instrumental reason is characterized by the rationalization of means to achieve arbitrary ends. In this respect, the question of »how« to achieve something is now primarily the focus of rational consideration rather than »what« or »why«¹⁹. This does not mean that actions are carried out without an objective, but that reflection and rational consideration is narrowed down to its methodical implementation. Ends are still defined, if not much more than before, as already discussed in subsection 3.3.3. However, they are rarely reflected with regard to their meaning in the context of a larger whole or their ethical implications. Thus the idea of emancipation through reason formulated by Kant suddenly changes into a technocratically administered world, managed according to the idea of effectiveness.

¹⁸To respectfully acknowledge Horkheimer's work, it should be noted that his diagnosis is not really a transition, but that he formulated a fundamental critique of Weber's idea of means-end-rationality and value-rationality. He describes how, through the idea of controlling nature already hinted at above in subsection 3.4.2, rationality has lost all connections to objective reason from the very beginning. Rationality is characterized by strict subjectivity, lack of values, and aimlessness since the Enlightenment turned its attention to mastery over nature. According to Horkheimer, rationalization never went beyond the pursuit of individual interests, which is why there has never been anything like a reasoned weighing of ends in modernity.

¹⁹A central aim in Horkheimer's and Adorno's works is to answer the question "[...] *why humanity, instead of entering a truly human state, is sinking into a new kind of barbarism*" (Horkheimer & Adorno, 1944/2002, p. 217). With this, they refer – even quite directly – to the barbarism of National Socialism. In this context, the characteristics of instrumental reason can probably be most strikingly demonstrated by one of its saddest examples: In the extermination machinery of Nazi Germany, and probably most forcefully so in the extermination camps Bełżec, Sobibór, and Treblinka, built as part of Operation Reinhard. These camps served solely the irrational end of exterminating human life, while the means to achieve this end were rationalized down to the smallest detail and carried out with cruel precision.

Building on Horkheimer (1947/2007) (and Horkheimer and Adorno (1944/2002)), Habermas (1981/1988, pp. 229-293) developed the thesis of the *colonization of the lifeworld* through instrumental reason in the second half of the 20th century. In doing so, he distinguished between the sphere of *lifeworld* and the sphere of the *system*. Weber already noted that means-end-rationality, in its modern form, is ideal-typically reflected by capitalism and bureaucracy. In Habermas' work, these two ideal types are subsumed under the system concept in the form of the economy and the state. The economy and the state are the two social spheres that would follow an instrumental and strategic²⁰ reason. Habermas understands the lifeworld as the sphere of communicative cooperation, which is conveyed through direct and pragmatic communication between a person and her or his environment. This sphere is characterized by the circumstance that action is primarily based on unquestioned values, norms, and habits. Thus, the lifeworld successfully refused to be appropriated by instrumental reason (at least until 1981, the time of publication). As these formulations may already suggest, Habermas sees the constitutive characteristic that distinguished the system and lifeworld in the means of their underlying communication. While the lifeworld is mediated by direct and pragmatic communication between the acting individuals, the state's communication runs via its administrative power and that of the economy via money. Administrative power and money would make communicative exchange possible without making the detour of a mutual-reflexive understanding between interaction partners and thus establish the instrumental reasoning of these spheres. Only the means would be negotiated in this type of communicative action. Reflection and deliberation on ends or values cannot be achieved through these forms of communication. With the colonization of the lifeworld, Habermas describes the tendency, already evident at the time of publication, that the instrumental rationality of state and market would be gradually transferred to the lifeworld. Thus, the communicative exchange is increasingly determined by economic and administrative rationality in the sphere of the lifeworld as well.

3.5.2 Rationalization of Individual Action

Van der Loo and Van Reijen (1990/1992, pp. 145-147) note that, especially in late modern societies, even single individuals are exposed to the situation of having to plan their own life according to rational criteria. Education, work, partnerships, parenthood up to and beyond retirement, all of this and more becomes the subject of planning and goal-setting strategies in developed and late modern societies²¹. Subsequently, one's actions are rationally aligned with these defined goals in terms of means-end-rationality. Not only the planning of life but also everyday actions are increasingly guided by the

²⁰Habermas (1981/1988, pp. 185-186) understands this to be a type of reason that manipulates other individuals' actions to achieve ends.

²¹In subsection 3.3.1 it was noted that the ability to plan one's way of life in the late modern era is subject to a permanent suspicion of contingency and thus becomes more difficult to predict. However, this does not contradict the observations of Van der Loo and Van Reijen (1990/1992). Precisely because it is hardly foreseeable where certain decisions will lead to, it is all the more necessary to weigh them up under rational considerations in order to anticipate desirable or unwanted trajectories.

principles of rationalization. In sociology, this tendency becomes apparent with the emergence of the so-called *rational-choice-theory*. As Rosa et al. (2018, pp. 246-248) note, the rational-choice theory is not a late modern diagnosis of time, but rather an approach rooted in methodological individualism, which deals with the dynamics of rationally acting individuals and thus attempts to derive model-based conclusions about a well-functioning society. The approach has its origins in economics, where it served to explain the behavior of actors operating in the markets. Nevertheless, I would like to take up this approach here because it can very well be seen as a late-modern diagnosis of rationalization. However, this diagnosis can not be derived through its content, but through its underlying assumptions, which – as Rosa et al. (2018, p. 246) state – could only have emerged in the course of an individualized and economized modernity.

These underlying assumptions are based on the idea that society consists exclusively of autonomously acting individuals, who follow only the maxims of their own utility maximization in their social actions and thus act entirely in accordance with (instrumental) reason (Rosa et al., 2018, pp. 248-250). Structural preconditions do not exist. According to the rational-choice-approach, a social structure, its institutions, legislation, or in short, the entire human system of order and meanings, emerges solely from the interaction or counteraction of the (instrumental-)rationally acting individuals. The individually egoistic behavior, so the assumption, leads in mutual interplay to a greater common good. According to Rosa et al. (2018, pp. 260-261), the emergence of this theoretical approach to explaining social dynamics can be taken as a symptom of the fact that throughout modernity, and especially in late modernity, individual action driven by benefit-maximizing becomes increasingly recognized as legitimate and rational. The principle of competition, so the promise, would automatically bring out the »best« in individuals and institutions, and Smith’s proclaimed »Invisible Hand« would guide individualism towards the common good. The late modern bureaucracy has recognized the productive power of this competition-based mode of interaction (Rosa, 2006). The state implements it with the help of flanking political measures, which have already been discussed in the subchapter subsection 3.3.3 and, according to Lessenich (2012, pp. 153-167), find their expression in the *activating state*²². The institutional legitimization and promotion of the principle of economic competition extends it to all areas of late modern life.

As I have tried to show, rational-choice-theory can serve as an explanatory model of late modern individual-rationalized action. However, not because of its anthropological assumptions of individuals intrinsically striving for utility maximization, but because it symptomatically stands for a development that not only recognizes the individual utility maximization based on the rationality principle of instrumental reason but even institutionally enforces it. Rosa et al. (2018, p.261) refer to critics of the rational-choice-

²²This political program of recognizing individualistic logics of action can probably best be described in the words of Margaret Thatcher: “*There is no such thing as society. There is living tapestry of men and women and people and the beauty of that tapestry and the quality of our lives will depend upon how much each of us is prepared to take responsibility for ourselves and each of us prepared to turn round and help by our own efforts those who are unfortunate.*” (Thatcher, 1987)

approach who are not mentioned by name²³, according to whom the assumptions of individual utility maximization and egoistic behavior are by no means a premise, but rather the result of the competition-based mode of interaction. Habermas (1981/1988, p. 488) himself sees the colonization of the lifeworld by instrumental reason, and thus the rationalization of the everyday practice of individuals realized through the intrusion of economic and administrative considerations into that very sphere. Through the ubiquity of the competition-based mode of interaction, instrumentally rational action becomes a duty, as long as one does not want to come out of it as a »loser«. The actions performed in the context of the competition-based interaction mode can be interpreted as instrumental in that their overriding goals (activation) remain unquestioned and individual goals (to emerge from the competition as a winner or at least not as one of the last winners) are imperatively imposed from outside.

3.5.3 The Primacy of Numbers in the Valuation-Society

The fact that the use of data plays a central role in collective and individual actions in our modern times can hardly be denied due to the multitude of numbers and related technologies we encounter in everyday life. This starts with what almost seems to be traditional activities such as checking current or forecast outdoor temperatures or stock market prices and extends to much less apparent forms like the usage of digital technologies such as smartphones, which are, from a plain functional perspective, nothing more than data processing devices. According to Mau (2017, pp. 10-12), this rise of an almost pervasive use of numbers and data can be traced back to an interplay between the technological feasibility of collecting and processing massive amounts of data on the one hand, and the socio-economic context on the other. As already mentioned in subsection 3.3.3, post-Fordist capitalism, due to its goal- and performance-based management style, depends on performance indicators to make progress visible and controllable. As described above, data-driven management strategies are extending to public administration, which itself becomes a »data manager« and tries to make informed political decisions based on socio-demographic parameters such as economic indicators (e.g., unemployment rate, GDP, GNP), birth and death rates or population size (Mau, 2017, pp. 34-39). Common to both economic and bureaucratic indicators is that they are either directly based on or operationally calculated through quantified facts or circumstances.

Quantification generally refers to the creation of a numerical representation of an arbitrarily narrow or broadly defined fact or circumstance. It describes a method of translating specific manifestations, characteristics, and qualities of the fact or circumstance into the language of mathematics. This can be done, for example, by measuring the facts or circumstances with the help of standardized units for the corresponding characteristic or by converting qualitative properties into number or classification systems. The advantage

²³Since the publication is a textbook of the authors, I assume that they mean themselves with these critics, but that they do not want to make this judgment explicit in the given context. In Rosa (2006), the criticism of the competition-based mode of interaction becomes much more explicit.

of such translations, which appear rather complex at first sight, lies in the universal connectivity the formal language of mathematics offers. In this way, transformational operations can be applied to the quantified facts or circumstances, and comparisons or hierarchies can be made, which would otherwise require considerable additional effort, although they are in principle also possible through human language. The value of quantification as a cultural practice is drawn from these universal comparative and organizing characteristics of numerical representations. Through abstraction and systematic standardization, it enables us to remove a certain amount of complexity from our everyday life and make phenomena that elude our direct perception more tangible. (Mau, 2017, pp. 27-30)

Houben (2018, pp. 213-214) notes that quantitative metrics can be understood as a third mediating element of systemic communicative action in late-modernity, alongside the means of communication of administrative power and money²⁴ distinguished by Habermas. He identifies a new qualitative manifestation of instrumental reason that enables new forms of rationalized legitimation of action through quantitative comparison. Analogous to the colonization theory, quantification thus also enters into the life sphere of individuals. Like in the economic and political context, data have an orientation-giving function in the individuals' sphere of life. In accordance with the competition principle, data provide information about where one stands and thus produce status. This observation implies that numbers are assigned a value. Numbers about oneself can be placed in relation to other people and arranged comparatively in hierarchical rankings. However, as Mau (2017, pp. 15-18) points out, it is not an intrinsic value that numbers carry within themselves. Rather, the values are the result of valorization processes that have been socially negotiated. Based on these considerations, he develops the thesis of a late modern *valuation-society*²⁵. According to this thesis, ubiquitous quantitative measurement is not only a particular form of describing social facts or circumstances but also has an impact on how we frame our world. He summarizes this power of numbers in three hypotheses (Mau, 2017, pp. 16-17):

- First, quantification changes the notion of what is understood as social value and status, whereby the valence of the measured fact or circumstance is generated, entirely in the sense of instrumental reason, through efficiency.
- Secondly, the use of quantification in more and more spheres of life accelerates the spread of the competition principle, since it enables competition-based comparison.
- Third, it follows from this that new forms of social stratification and inequality arise with quantification because the previously incomparable can now be put into relation, transformed into a valuation, and thus hierarchized in a competitive context.

²⁴Whereby he sees these metrics conditioned by the former and enabled by the possibilities of automated data processing.

²⁵Own translation from German due to lack of an official translation of the work. The original wording is *Bewertungsgesellschaft* (Mau, 2017, p. 16)

Similar findings can also be found among other authors. For example, it has already been stated before with reference to Van der Loo and Van Reijen (1990/1992, p. 129) that in the context of the establishment of the primacy of means-end-rationality, the value of the action is often derived from its efficiency. Value is thus generated through performance. In a similar way to Mau, Rosa (2018, pp. 37-47) discusses that the quantization and evaluation of personal characteristics and actions are often subject to the fallacy of a predefined value assumed to be contained in the data. Rosa argues that due to the individualization, the pluralization of lifestyles, and the fundamental freedom of choice in shaping one's own life, no »correct« answers can be given to the questions about the »good« or »successful« life and how it can be realized. At the same time, he sees the already mentioned modern features of dynamic stabilization and the competition-based interaction mode effective at the structural level. In summary, Rosa states that due to the general unanswerability of the question of a successful life and the lifestyle necessary for it, the individuals would orient themselves to those criteria which at least seem to offer the essential prerequisite for it: The personally acquired resources. These include money, education, practical experience, health, attractiveness, relationships, as well as the ability to efficiently manage these resources. The quantitative increase of these resources provides at least the necessities for living a good life. Under the structural condition of dynamic stabilization, this tendency to accumulate resources is becoming a compulsion in order to at least maintain the status quo. According to Rosa, the confusion lies in the fact that these resources are no longer considered necessary prerequisites for, but rather the good life itself. The competition for quantitative resources is thus a supposed competition for the »good«, »better«, or »worse« life. The *Quantified-Self-Movement* is the best example of this: It merely measures the human resource potential but falsely equates it with the quality of one's own life. The consequence is thus a dedication to quantitative instrumental practices of self-experience in order to grasp and subsequently improve the supposed quality of life – its qualitative value is derived from the number and extent of available resources.

Noji and Vormbusch (2018, pp. 28-29) note that the use of numbers related to the own appearance or actions, like those obtained through self-tracking, is also associated with the promise of traceability and contingency reduction. Due to their property of comparability, numbers of quantified facts and circumstances make it possible to make past developments visible, to examine the status quo in relation to this past and to imagine possible futures from these observations. In this respect, numbers and statistics in late modernity also act as a method to push the individual uncertainty discussed in subsection 3.3.1 into the background by conceiving past, present, and future as a statistical continuum.

Methodology

With regard to the research questions formulated at the beginning of this thesis, the question arises as to how the problem areas of self-tracking addressed therein can be empirically ascertained. As already described there, this work does not aim at individual and context-specific patterns of use but instead wants to focus on the question of the socially constructed foundations of these patterns. For this reason, an empirical source material was needed that does not get stuck in the individuality of isolated use patterns and the respective superficial meanings, but rather allows a view of the public discourses around the technology under consideration. Inspired by the works of Roland Barthes (1957/1991) and Steinhardt (1993) as well as the studies published in Hartmann and Haubl (1992), such empirical material could be identified in advertisements. In the following chapter, first of all the question will be answered to what extent advertisements and social reality are connected and thus represent legitimate material for the investigation of social facts concerning the product to be advertised (section 4.1). Subsequently, I will discuss the sampling (section 4.2) and present the criteria according to which the source material was searched for and representatively selected. In section 4.3, I will discuss the methodological framework used to study the empirical material in order to sharpen the understanding of the theoretical lenses under which it was analyzed. Finally, I will describe the concrete method applied and its necessary steps (section 4.4).

4.1 On the Relationship Between Advertisements and Social Reality.

At first glance, advertisements appear to be a very poor starting point for the analysis of social reality. The oxford dictionary defines an advertisement as “*a film, newspaper announcement, poster etc making something known, especially in order to persuade people to buy it*” (“advertisement”, 2019) and the Merriam-Webster dictionary describes the act of advertising as “[calling] *public attention to especially by emphasizing desirable qualities*

so as to arouse a desire to buy or patronize” (“advertise”, 2019). In this respect, the focus is not so much on objective information and consultation as on the manipulative character of advertising, which is intended to convince people of a product by sometimes exaggerating certain characteristics. Whether the product can keep its promises and fulfill the propagated empowerment plays only a secondary role. Many legal systems have measures in place to protect consumers from unfair competition through excessive advertising, but these can easily be undermined, for instance, by the use of disclaimers marked with an asterisk. Advertising is – as one might supposedly say – not a form of depicting reality, but the staging of fictitious facts and actions and thus unsuitable for exploring people’s everyday lives.

Even if advertisements may appear to be a poor starting point for the exploration of social reality, it turns out to be quite appropriate for the given research context when considering its function and mechanisms. Within the above-mentioned dictionary quotes, another commonality of the definitions can be identified besides their manipulative character: The central goal of advertising is the sale of a good¹. Haug (2017, pp. 24-39) shows the relevance of advertising for companies based on considerations about the separation of use-value and exchange-value in the course of money-based trading as well as the dynamics of saturated markets in developed capitalism. According to Haug, advertising in developed capitalism primarily serves to establish so-called promises of use-value. He identifies a general advantage of the seller in the course of a trading transaction, since the interest of the seller (the realization of the good’s exchange-value in the form of money) is fulfilled with the conclusion of the transaction, while the interest of the buyer (the realization of the good’s use-values in actual use-contexts) unfolds – if at all – after the conclusion of the transaction. Therefore, the use-value exists merely as a promise and thus as a kind of appearance² until the transaction is concluded and the good is in use. This appearance is the central object addressed by advertisements. The primary aim of advertising is thus to charge the material product with certain promises of use and usefulness. At this point social reality becomes relevant: Use-values result directly from wishes, goals, ideas, and resulting needs constructed through social relations and interactions. Advertising must take up existing use-values to construct respective promises and thus must also thematize the social reality of its addressees (Haug, 2017, pp. 24-39). Whether the advertised product can fulfill the promise of use-value or not is rather secondary. Thus, the manipulative character mentioned above is not an obstacle to exploring people’s everyday lives.

In this respect, advertisements provide a rich material for the investigation of social reality. However, it should be noted that *the advertisement* is by no means a mirror of a *the society* in the metaphorical sense. As Schnierer (1999) points out, the assumption that advertising depicts social dynamics holistically and undistorted is hardly tenable. Among

¹In this context, the term *good* refers to all things which have become the subject of markets as a result of commodification processes. Thus, in addition to physical things and services, human labor itself is also understood as a good.

²*Appearance* here is meant in a philosophical sense: Use-value promises refer to what a product *seems* to be rather than to what it actually *is*. Thus, it appeals to the perception of the consumer.

other things, this can be explained by the fact that advertising always refers to two levels of discourse simultaneously: On the one hand to the product to be advertised and on the other to society. The potential of understanding society via advertisements is limited by the discourse about the good to be advertised since the latter is in the actual interest of the advertisers and their customers. The discourse on society is thus determined a priori by the (imagined) use-contexts of the good. With these reservations, it must, therefore, be stated that advertising is not a general indicator of society, but takes up social processes and dynamics relevant to the use of a product and stages them in the media. These stagings, however, reflect real contexts of use and thus also real demands of everyday life according to Haug's argumentation, but always with the restriction that they are oriented towards the advertised product. It is precisely this epistemological limitation that makes advertisements attractive for the analysis of meanings of certain things. Here, it is by no means a restriction but enables one to focus on the object of research and its structures of meaning.

4.2 Theoretical Sampling

Based on the considerations regarding promises of use-value and the limitations of possible insights gained from advertisings, the question now is which raw material can meet the requirements to analyze collective structures of meanings of self-tracking technologies. As argued, advertisements and their stagings always contain a series of symbols that are intended to create this second surface of a product as described by Haug and thus provide clues about social reality. However, not all advertising formats and advertising contents are equally suitable. For this reason, some constraints have been defined in advance to narrow down the quite broad pool of potential materials. Methodically, Purposeful Sampling with subsequent variation according to Patton (2002, pp. 230-242) was applied. This sampling method seeks to construct the sample by making theoretical considerations with regard to the expected knowledge potential of the respective case in question. The scientists should reflect on "*what cases they could learn the most from*" (Patton, 2002, p. 233) along well-founded decision parameters in order to extract so-called information-rich cases. At the same time, a sufficient heterogeneity between the individual cases within the sample should be established. This can be achieved by varying the selection of cases along certain characteristic attributes that each case has. This sampling method proved to be the most promising for the present work, as will be argued in more detail below. First, the identified constraints for the sample will be presented. Afterward, the method of and applied criteria for the variation will be discussed.

The first constraint for the sample refers to the media formats of the advertising. In the present work, **promotional videos** of fitness trackers and smartwatches with bio-sensing functions will be used as material. This constraint is based on both pragmatic and epistemological considerations. The pragmatic reason for this is that while potential findings could be increased by examining different advertising formats, this would also require different methods of analysis. The additional effort required appears inappropriate given the low added value to be expected. It is expected to be low because many advertising

campaigns nowadays are run across different media formats (media convergence) while the discussed content remains largely the same, but is adapted to the respective characteristics of the media format (Voorveld, Smit, & Neijens, 2013). This is where the epistemological considerations come in. Exemplary sightings of different advertisements for the same product have shown that although the content form and thematic focus between formats often remain the same, the insights to be expected from the video source material can be rated considerably higher due to a larger variety of depicted usage patterns and interactions³.

Furthermore, the study focuses on advertisings that were produced and published as **TV commercial**. With the pluralization of media channels and the emergence of social media marketing, a number of new forms of advertising video format were developed. Video marketing is therefore no longer solely based on TV and cinema advertisements alone but also uses other forms, such as product placement by vlog-influencers (Woods, 2016). Prominent in the given context were approximately two to five-minute advertising films that take individual biographies as their subject and show how fitness trackers and smartwatches changed the life of these people⁴. Even if these videos appear to be ideal material at first glance since they place the lives of selected (possibly fictitious) persons at the narrative center, at a second glance they seem to be rather obstructive. As mentioned above, this work focuses on collectively established meaning structures of the technologies in question. The above-mentioned commercials indeed provide a deeper insight into individual, mostly fatefully negatively influenced lifelines and – related to this – the resulting meaning structures of digital tracking technologies of these individuals (be they real or fictional). On closer examination, however, they appear to be too case-specific.⁵ This fixation on individual biographies that are staged in detail does not occur in classic TV commercials. On the one hand, this is due to the fact that the time required for the complete broadcast is not given due to pricing considerations (Urban & Carjell, 2016, pp. 273-274) and, on the other hand, a more dispersed audience has to be addressed (Janoschka, 2004, pp. 27-28), which may not be able to identify with the individual biographies. The combination of these two circumstances speaks for the use of TV spots in so far as the advertisers have to succeed in creating a promise of use-value in a relatively short time which has to address a more or less⁶ indefinable audience on a

³For example, the manufacturer Garmin advertises the Smartwatch Fenix 5 in print media with an image of a man around 30 years old in a sports outfit who is currently jogging, as well as with the image of the Smartwatch and the campaign slogan “*Beat Yesterday*”. The same person is also the protagonist in the corresponding TV spot, in which he can be seen at different activities. The product image and the campaign slogan are also included in the TV spot.

⁴See exemplary the “*Success Stories*” published by Fitbit <https://web.archive.org/web/20191205231302/https://stories.fitbit.com/uk/>

⁵However, a study of the analogies between the narratives appearing in these stories could be part of an analysis of collective meanings. What is striking is that the biographies discussed are exclusive of people with congenital, pathological, or age-related limitations. Therefore, it is reasonable to assume that this exaggeration of the limitations is symptomatic for the idea of man as a deficient being in need of improvement. Unsurprisingly, these physically limited individuals are suddenly able to live a fulfilled life again with the help of technology in the advertising.

⁶More or less to the extent that broadcasters know through market research which target groups

content level. TV commercials are produced to be short and concise. At the same time, and ideally, they address a broad target spectrum and therefore focus more on collective and less on individual use-values.

Another constraining criterion refers to the advertising content itself. The search for suitable TV spots revealed that there are essentially two types of advertising messages or advertising content for fitness trackers and smartwatches. On the one hand, some commercials highlight the technical product itself. This type concentrates on putting as many technical specifications and functionalities as possible into the short TV slots, without ever referring to the use of them. On the other hand, there are TV commercials that stage certain usage patterns of the devices and either portray coherent storylines or unrelated sequences showing people interacting with the device in different settings. According to the premises of Symbolic Interactionism, the meanings of things emerge and manifest in the course of interactions performed. In this respect, it seems reasonable to exclude the commercials that focus solely on technical specifications from the sample and to concentrate on the **sequences that stage interactions** between people and devices in related use-cases.

Taking these constraints as search criteria, it turned out that the pool of potential cases to be considered was drastically reduced.⁷ As mentioned earlier, Patton (2002, pp. 243-235) recommends that in such a case, well-founded characteristics of the individual cases should be identified along which the effectively chosen cases should be varied to ensure the necessary heterogeneity of the sample. In this way, it is possible to achieve both an in-depth analysis of individual cases (which is the purpose of qualitative studies anyway) and to identify analogies between the cases that occur in the population the sample represents, even if the number of potential candidates is small. These variation criteria will be described below.

Several technology corporations now offer smartwatches and fitness trackers and also advertise their products via TV spots. To ensure that collective structures of meaning and not corporate philosophies or corporate cultures are the subject of the analysis, the analyzed advertising videos should come from different manufacturers. Another characteristic dimension identified is the number of human protagonists. On the one hand, in some advertisements, a single protagonist is chosen as the main actor, whereas in others a large number of actors are shown performing different interactions with the devices. The sample should contain at least one advertising video of each of these

they address with a particular program depending on the content and time of day (see Urban & Carjell, 2016, p. 109). However, the audience is still more diverse than in the case of targeted online advertising.

⁷A further constraint originally was that the commercials needed to be broadcast in German-speaking countries. However, it was not always possible to find sources that could be used to determine the countries of broadcasting. If the selection was limited to only those spots which could be shown to have been broadcast in Austria, Germany or Switzerland, the remaining pool would have been too small to allow for any further variation. Therefore, in the course of the effective selection of advertising spots, it was introduced as a non-binding but in-case-of-doubt selection criterion that indications could be found that the spot was broadcast in European countries. In the final selection, such indications can be found for all spots.

categories. In the cases of single protagonists, care was taken to vary between male and female main characters. A further variation was whether the actions or uses depicted were in a more realistic or abstract setting. This is because there are advertisements that strongly rely on surrealism to create certain atmospheres while others put the scenes in a more realistic setting.

Based on the constraints as well as the variations, the sample shown in Table 4.1, consisting of four advertising videos, was selected. The selection of the manufacturers was based on the highest European market shares in 2019⁸(IDC, 2019).

| Manufacturer | Product | Year of last airing ⁹ | Protagonists | Degree of staging abstraction |
|----------------|----------------|----------------------------------|----------------|-------------------------------|
| Apple (2019) | Watch Series 4 | 2019 | Single; Male | Abstract |
| Fitbit (2017) | Ionic | 2018 | Multiple | Concrete |
| Garmin (2017) | Fenix 5 | 2018 | Single; Male | Abstract |
| Samsung (2014) | Gear Fit | 2015 | Single; Female | Concrete |

Table 4.1: Selected cases analyzed in the empirical study

4.3 Analysis: Theoretical Introduction

The search for an adequate method of analysis of collective meanings and underlying ideological structures of thought and action showed that semiotics provides the necessary tools for this purpose. As a discipline located between communication science, media science, and social sciences, semiotics deals, among other things, with the question of the meaning of media content with reference to the social reality of its producers and recipients. To achieve this, it focuses on the analysis of signs and sign systems that are supposed to communicate meaning. In particular, the methodological elaborations and empirical works of the French philosopher and semiotician Roland Barthes appear to be useful for the analysis of advertising videos in view of the research questions. However, before discussing the applied procedure of analysis, I will first give a brief introduction to semiotics in general and with special attention to Barth's interpretation of it as well as the special characteristics of film semiotics. On the one hand, this should give an introduction to the perspectives and terminologies of semiotics.

On the other hand, it should be understood primarily as a quality criterion of the present work. Already in its initial phase, semiotics was divided into different schools with different perspectives on the analysis of signs¹⁰. To meet the quality criterion of

⁸2018 respectively, as the manufacturers Garmin and Huawei held equal shares in 2019, but only four commercials are to be analyzed because of the limited intended effort of a master thesis.

⁹According to <https://www.ispot.tv/>

¹⁰As will be mentioned in more detail later, there are two basic schools of thought in semiotics. One originates from the works of the Swiss linguist Ferdinand de Saussure, the other from the works of the American philosopher and logician Charles Sanders Peirce. (Yakin & Totu, 2014)

trustworthiness (Lincoln & Guba, 1985), it makes sense to present the perspective on signs and sign systems applied in the analysis transparently.

4.3.1 Semiotics: The Science of Signs

To put it in Umberto Eco's Terms, Semiotics is the "*theory of a lie*" (Eco, 1976, p. 6) By this he does not mean that semiotics is an illegitimate branch of science, but that semiotics, in essence, puts the means necessary to be able to tell a lie in the focus of research. In order to tell a lie, it is necessary to create a meaningful structure of things that represents something that is not real but can be articulated and interpreted as it were real. Conversely, if this thing is not able to communicate a lie it even is not able to communicate truth. In human communication these *things* are referred to as *signs* and *sign-systems*. Along these lines, Eco provides probably one of the most striking definitions of semiotics:

"Semiotics is concerned with everything that can be taken as a sign. A sign is everything which can be taken as significantly substituting for something else. This something else does not necessarily have to exist or to actually be somewhere at the moment in which a sign stands in for it." (Eco, 1976, p.7)

Semiotic therefore tries to investigate signs, sign-systems, and how meaning is attributed to them. In this respect, semiotics can be interpreted as the study which tries to understand communication on a rather lower level by investigating how meaning is transferred from one communication partner to the other using signs, for example in form of spoken or written language. This interpretation, however, is far too simplistic. As Chandler (2002, p. 8) argues, semiotics is way more than the investigation of communication, but in essence, a way to conceptualize human perception and action and – therefore – a vehicle to understand social realities. Semiotic highlights the mediating role certain things play for our everyday lives and how the attribution of meaning guides our actions. This can be exemplified by trivial things like – for instance – a hammer. Whenever we focus our attention on a hammer, the plain object is going to be connected with a series of mental conceptions. We recognize it to be the linguistic term \ 'hæmər \. By experience, we know how to handle a hammer and which effects it normally has when we use it. We realize a social context and derive implications what the hammer means in it (e.g., in a blacksmith's shop; in court during a trial). As Chandler (2002, pp. 7-9) highlights, semiotics is a way to realize, that meaning is not an essence of the things itself but the result of complex interpretative processes. By investigating these interpretative processes, we are also able to better understand social realities.

As Eco's definition suggests a sign is an (at least) two folded entity, consisting of a form that operates on a perceptual level and serves as a vehicle to transfer a contentual concept which is the second part of the sign. According to Saussure (1916/1959, pp. 65-70), often regarded as the founder of semiotics, the vehicle is called signifier (*Signifiant*) and the concept is called the signified (*Signifié*). For Saussure (1916/1959, p. 113) the signifier and the signified form an inseparable unity where the one can not exist with

the absence of the other. Further, both, the signified as well as the signifier, are purely mental constructions and none of them is a real object (Saussure, 1916/1959, pp. 66-67). The signifier is a mental representation of a perceptible form while the signified is the collection of all mental conceptions bound to the signifier. As Langer (1954, p. 49) puts it, signs “[...]are not proxy for their objects, but are vehicles for the conception of objects. [...]In talking about things we have conceptions of them, not the things themselves”

This does not mean that sign systems have no relation to the real outside world¹¹. Due to his profession as a linguist, Saussure was primarily interested in the sign system of human language, which is why his concept of signs does not necessarily include a reference to reality since within texts this relation only plays a secondary role. Peirce (1893–1913/1998), who is regarded as the second major pioneer of the field, developed his theory of signs parallel but independently to Saussure, which includes the relation between sign systems and real entities. Figure 4.1 shows this relation in the so-called triadic model, combining Peirce’s (1893–1913/1998) concept with the theory of Saussure (1916/1959) and adjusted along the critique by Eco (1976). The left part of the triangle represents Saussure’s (1916/1959, pp. 65-70) conception of signs as a connection between the signifier as vehicle and the signified as the sum of mental conceptions related to the vehicle. According to Peirce (1893–1913/1998, pp. 4-10), however, there must be a connection between the sign and something real, here called a referent, in order to let the sign mean something throughout the process of (de-)coding it in a specific context. The dotted line between signifier and referent indicates that these two parts do not necessarily have a direct relationship with each other. In other words: what the signifier refers to is not directly determined by the vehicle itself, but emerges from the relation of the signifier and the referent through the signified (Ogden & Richards, 1923/1930, pp. 9-12). This highlights another important concept in semiotics. What a signifier refers to is not per se specified by the perceptible form of the vehicle but is culturally constructed and thus manifests through the signified. The relation between signified and referent is also not a strictly clear one. Let’s assume we want to identify, what the signifier \‘hæmər\relates to in the following sentence: “A hammer can be used to drive in nails”. According to Peirce, the referent is the real material object a sign refers to. In this sense, I must refer to something material in the aforementioned sentence. The interesting thing is that neither you (to read these words) nor me (to write these words) need a material hammer to grasp the meaning of the sign. Further, this sentence raises another question within the Peircian model. For instance, to what does the the words “to” (or the signifier \tu:\) relate in our material world? This is where Eco’ (1976, pp. 58-72) pragmatic criticism on the two basic models comes into play. He argues, that the Saussurian model alone is too simplified since it assumes that signs are always produced intentionally and ignores the reference to reality. On the other hand, the Model of Peirce oversimplifies how a signified relates to the material world and – thus – how meaning is constructed.

¹¹In his works on simulacra, simulation and hyper-reality, Baudrillard (see e.g. 1976/1982) tried to show that the dominant sign systems of late modernity no longer have a real-world origin, but only refer to other sign systems. Whether this is the case or not is not relevant here, especially since his theories represent a socio-philosophical analysis of the present and not basic semiotic research.

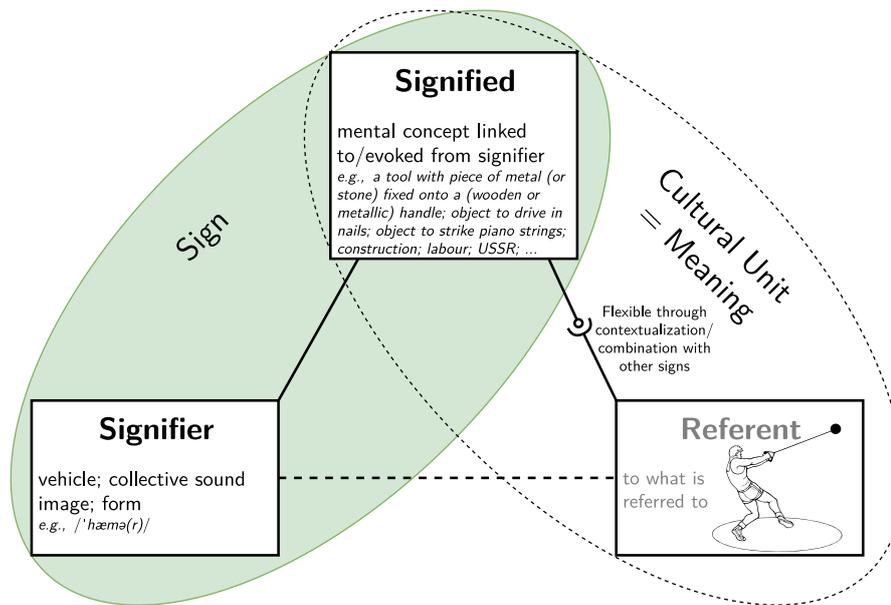


Figure 4.1: The triadic sign model of semiotics illustrating the relations between signifier and signified within the sign as well as its relations to the outer reality; Source: Own illustration based on Ogden and Richards’s (1923/1930, p. 11) interpretation of Peirce’s (1893–1913/1998) model, combined with Saussure’s (1916/1959) dyadic sign theory and adapted along Eco’s (1976) critique on the models of the authors mentioned before.

“Every attempt to establish what the referent of a sign is forces us to define the referent in terms of an abstract entity which moreover is only a cultural convention. [...] What, then, is the meaning of a term? From a semiotic point of view it can only be a cultural unit. In every culture “a unit ... is simply anything that is culturally defined and distinguished as an entity.” (Eco, 1976, pp. 66-67)

According to (Eco, 1976, pp. 58-72), the meaningful interpretation of a sign vehicle is a complex process which on the one hand takes the signifieds of a signifier as its starting point, but on the other hand, contextualizes the sign by putting it in relation to other signs (and thus other signifieds). The result of this decoding process is a cultural unit as the sign’s meaning in a given context and not a real referent as described by Peirce. Therefore, the meaning of signs is a cultural convention, which (in certain contexts) can, but need not, refer to an actual object¹². The contextualization through other signs is of particular relevance in (de-)coding processes, as it provides information about which cultural unit is referred to. For example, the hammer may refer to a piece of sports equipment (see Figure 4.1). Although it may not be one of the usual signifiers evoked from the vehicle \‘hæmə(r)\, the contextualization makes it clear what is meant.

¹²Eco clarifies this by discussing the words “mermaid” and “unicorn”. No one has ever been able to refer to corresponding real objects, yet most people from the corresponding cultural area know what is meant by these signifiers.

4.3.2 Orders of Meaning

However, it is not the case that meaning in a sufficiently narrowly defined cultural context is to be understood as the result of a determined injective function taking the vehicle and the context as input. A sign can – and under normal circumstances, this is the case – carry many different meanings in the form of cultural units (Eco, 1976, pp. 55-56). Let us again use the hammer as an example, this time in the form of a judge's gavel used to make a judgment in the American court system. What does the pounding of the gavel during the pronouncement of the judgment stand for? First of all, (a) it simply means that a judgment has been made and the session is closed. If we now extend the scope of interpretation, (b) it can additionally mean that the respective court has transformed a state that was considered unlawful into something lawful and therefore just. In addition, (c) it can further be interpreted to mean that there is such a thing as a universal and objective justice that is coded into law, can be dispensed by institutions, thus has its legitimate validity, shall not be questioned and was sanctioned by the judge with the pounding of the gavel.

These are merely exemplary attributions of meaning from a way much broader pool. However, they were deliberately chosen in this order. A closer look reveals that there may be a connection between them. Roland Barthes, arguably one of the most fascinating practitioners of semiotics in cultural studies, identified hierarchical structures between different cultural units evoked from a signifier and categorized them in different orders of meanings. Barthes is well known for his studies of French post-war society in the 1950s, which can be read in a truly exhilarating way. He first published them in form of essays as a column in the literary journal *Les Lettres Nouvelles*, but were later collected in a book titled *Mythologies* (Barthes, 1957/1991) including a methodological account of his studies. In his essays, he impressively shows how cultural practices that initially seem unspectacular and »natural« by many take on grotesque traits when viewed under the light of their structures of meaning that can be unveiled by deconstructing the different orders of signification.

Barthes(1957/1991, p. 110-115, 1964/1986, pp. 89-94) uses a basic sign model as the one presented above (Figure 4.1) as the analytical basis but successively extended it by different levels of meaning as depicted in Figure 4.2. On a first interpretative level of a sign, there is something like a »literal« meaning, which is often called *denotation* in semiotics. Denotations are what a sign stands for in a “[...] *definitional, literal, obvious, elementary, or commonsense*” way (Chandler, 2002, p. 162). For Barthes (1957/1991, pp. 113-114) this first order of meaning refers to actual language that enables the thematization of certain cultural facts. Thus on this level, the meaning of signs can be interpreted with dictionary definitions of linguistic signifiers representing the phenomenon in question. In our example of the judge's gavel, meaning (a) corresponds to this denotation.

However, signs may mean much more than what a »dictionary definition« says about them. Signs are always embedded in a system in which it transcends its literality and

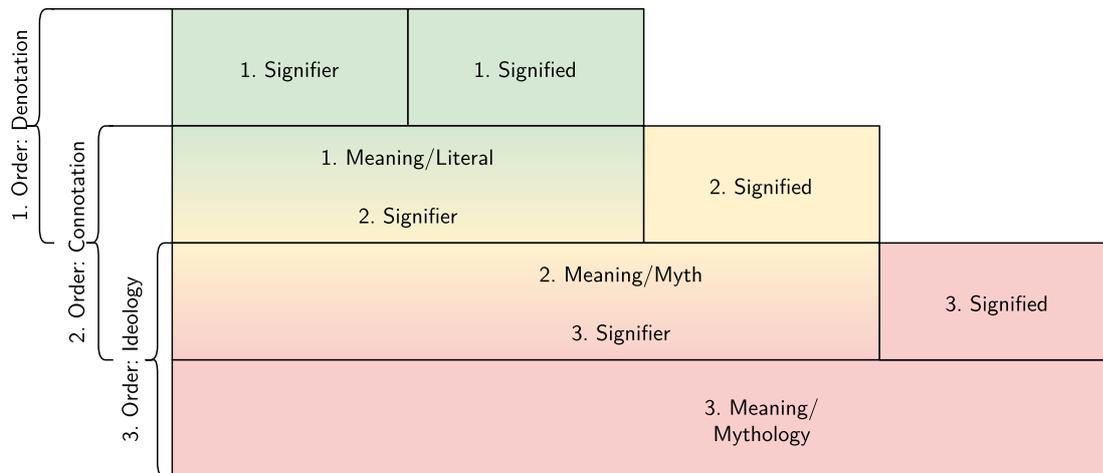


Figure 4.2: The orders of meaning of signs and sign-systems with the different orders denotation, connotation and ideology. As an analytical tool, the diagram must be read from top to bottom, with the sign formed on the upper order acting as a signifier of the order below; Source: Own illustration based on Barthes (1957/1991, p. 113, 1964/1986, p. 93) and Gonsalves (2010, p. 46)

merges into a culturally contextualized framework of meaning. In semiotics, this structure of meaning is often referred to as *connotation*. Barthes (1957/1991, pp. 113-114) calls this second order of signification myth. Here the denotative meaning of a sign becomes a signifier itself and thus serves as a vehicle for respective cultural values attached to it (Barthes, 1964/1986, pp. 90-92). In this respect, the myth acts as an organizing structure for the individual to make sense of its world through a cultural lens (Gonsalves, 2010, pp. 43-44). As Chandler (2002, pp. 62-64) points out, the distinction between a connotation and a denotation must above all be considered historically conditioned. The denotation is just as much a product of negotiation processes within a respective culture (and is, therefore, a cultural unit in Eco's terms) as the connotations, but with the difference that the denotation has historically established as a primary meaning, while connotations can generally be regarded as more temporally and culturally flexible and even more subject-dependent. In our example of the gavel, its use not only brings the trial to an end with a judgment but in its cultural significance it establishes justice through the primary culturally recognized institution to do so. But why does Barthes speak of *myths* in such a case, as this term has a quite irrational undertone? It is precisely this contextuality of connotations that gives them a mythological touch. In everyday use, connotations are not recognized as fluid products of cultural negotiation processes but appear to sign-users or sign-recipients as natural meanings. They become mythical in that they mask the concrete historical, power-related or socio-economic conditionality of meanings through naturalization¹³ (Gonsalves, 2010, p. 46).

¹³A fictional but telling example of such a historically conditioned sign and how it became naturalized

Here we need to introduce a third order of meaning in which a certain connotation/myth is embedded in. It should be noted that – concerning the methodological approach – this third order is only indicated or addressed implicitly in various places in Barthes’ works (e.g. 1957/1991, pp. 134-136, 1964/1986, pp. 91-93) and has been further elaborated by others (I primarily refer to Gonsalves, 2010, pp. 45-47) in the form shown in Figure 4.2 with the increased emergence of semiotic methods in cultural studies¹⁴. As described, myths serve as normalizers. But what exactly is normalized here? The entire spectrum of connotative cultural meanings of the second order, condenses in the third order into what can be called a specific collective worldview, in Barthes’ terms mythology or – what reflects the terminology introduced at the beginning of the present treatise – *ideology* Barthes (1964/1986, pp. 93-94). In this respect, a sign on a rather unconscious level refers to dominant socio-political and collectively held concepts and narratives that reflect a certain system of implicit values. For Gonsalves, in the third order of meaning the sign “*reveals its membership to a culturally ordered symbolic sign system*” (Gonsalves, 2010, p. 46), in which myths are organized into a broader structure of ideology. The myth naturalizes the underlying ideology by masking its cultural origin. In our example of the gavel, this means that the connotative meaning of justice produced by an institution embodied through the judge, masks some underlying premises: That what is considered just is the product of a long-lasting negotiation process of values; that a judge only has the power to pronounce justice through a collectively endorsed social contract; that all the aforementioned has a certain genealogy and is a human-made historical product (and therefore only one of potentially many). All these circumstances disappear behind the popular myth that a judge speaks objectified just.

4.3.3 Peculiarities of Visual Film Semiotics With Regard to Analysis

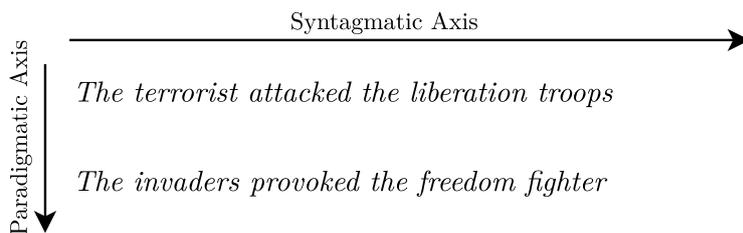
One of the semiotics’ strengths as an empirical approach lies in its broad applicability to different objects of investigation. Although it was initially understood and developed as a branch of linguistics, the so-called epistemological linguistic turn in the 20th century

can be found in Precht (2010), quoted here after Gilbert (2007, pp. 215-216) (both refer to the same Indian anecdote but Precht’s work is only available in German): “*The Indians around here tell a cautionary fable about a great saint who was always surrounded in his Ashram by loyal devotees. For hours a day, the saint and his followers would meditate on God. The only problem was that the saint had a young cat, an annoying creature, who used to walk through the temple meowing and purring and bothering everyone during meditation. So the saint, in all his practical wisdom, commanded that the cat be tied to a pole outside for a few hours a day, only during meditation, so as to not disturb anyone. This became a habit – tying the cat to the pole and then meditating on God – but as years passed, the habit hardened into religious ritual. Nobody could meditate unless the cat was tied to the pole first. Then one day the cat died. The saint’s followers were panic-stricken. It was a major religious crisis – how could they meditate now, without a cat to tie to a pole? How would they reach God? In their minds, the cat had become the means.*”

¹⁴This does not mean, however, that Barthes did not dare to take this analytical step in his works. I would even argue that Barthes’ life’s work aims to make the third order visible through the analysis of everyday myths or as he writes in the preface of *Mythologies*: “[...]in the account given of our contemporary circumstances, I resented seeing Nature and History confused at every turn, and I wanted to track down, in the decorative display of what-goes-without-saying, the ideological abuse which, in my view, is hidden there.”(Barthes, 1957/1991, p. 10)

brought a change in the understanding of human interactions with their environments through signs. In this respect, a series of new application areas of semiotic methods emerged (Chandler, 2002, pp. 282-286). In particular, visual semiotics and film semiotics directed their attention to optical sign systems and moving pictures in combination with sound. It is necessary to take a closer look at the unique concepts and terminologies of these semiotic branches before the method of analysis applied in this study is outlined in the subsequent section.

To be able to apply semiotics as an analytical concept of visual content and moving pictures, the hitherto rather vaguely hinted combination of individual signs into more extensive systematic collections must be considered more carefully. As mentioned above, the relation of signs to other signs plays a central role in encoding and decoding meanings. As Saussure already pointed out, signs enter into two kinds of relations to other signs within a bigger sign system. These relations result from the questions, which sign is chosen to represent something and with which other signs it is combined. The answers to those questions form the so-called paradigmatic and syntagmatic axis of a collection of signs, which are both inevitable for the analysis of its meanings (Hayward, 2006, p. 346). The difference between these two axes can be exemplified by looking at the following two sentences, which may well refer to the same event, but evoke different meanings in the reception.



The paradigmatic axis here runs vertically and refers to the selection of individual signs (in linguistics, *words* are considered as such), which are linked in the sentences to form a collection of signs and thus a meaningful unit. The paradigm indicates which sign is chosen to refer to something. In our example sentences, *terrorist* forms a paradigmatic relationship with *freedom fighter*, *attacked* with *provoked*, and *liberation forces* with *invaders*. As we see from the example, the paradigmatic replacement changes the perceived meaning (here especially the connotative one) of the sentences. So a paradigm generally refers to a set of signs that can be used as an exclusive replacement for another sign within a sign system under certain preconditions¹⁵. On the other hand,

¹⁵These preconditions depend on the matter of interest. From a syntactic perspective, the paradigm would be formed from all signs that form a grammatically correct sentence by replacing the sign under consideration. In this respect, *terrorist* could also be replaced by *rubber*, *sock* or *jam jar* and thus enters into a paradigmatic relationship with these words. In the case of meanings of self-tracking or generally in film, however, semantic paradigms are of interest. Thus, we are more interested in the question of which signs were (not) chosen to refer to something specific and why: What is the intention behind

the syntagmatic axis refers to the relational arrangement of signs to other signs forming a bigger whole. In the example sentences, it runs horizontally. Here the grammatical subject has been exchanged with the object, resulting in a change in the meaning of the protagonists' active and passive actions. In general, a syntagm describes any form of interacting signs within a collection of signs constructed under specific syntactic rules in order to mean something specific. (Chandler, 2002, pp. 98-101)

Now the question arises of how the semiotic concepts described just before and in the previous section can be applied to the medium of film, starting with the question of what can be understood as structural reduction, i.e., the smallest meaningful unit of analysis. As Metz (1971/1991, pp. 105-107) pointed out, linguistic concepts such as *word* as the smallest single sign, *sentence* as the smallest semiotic unit of analysis, *paragraph* as a higher-order structure of meaning and so on, cannot be applied to moving images. For Metz, the film represents a continuum of meanings that are difficult to separate analytically. However, he suggests that if the film has to be analytically separated, the smallest relevant unit of analysis can be seen in the cinematic shot, i.e., the moving image between two consecutive cuts. He justifies this with the minimal requirement for categorizing a piece of media content as a film. It is true that shots again consist of individual frames, and individual frames each consist of a collection of individual signs. However, these cannot be categorized as film on their own, since the temporal dynamics in the sense of a moving image is not given.



(a) Extract from the last frame of shot 10 taken from Samsung (2014)

(b) Extract from the first frame of shot 11 taken from Samsung (2014)

Figure 4.3: Exemplary paradigmatic relation in a fitness tracker advertising video by Samsung. The end of shot 10 in the video creates a seamless transition of a moving woman with the beginning of shot 11 by a paradigmatic exchange of the settings. Likewise, the shots are in a syntagmatic relation to each other through their temporal sequence of events. Source: Samsung (2014)

Concerning the relations between signs, the concept of syntagmatic and paradigmatic relations, which had previously been discussed in linguistic terms, can be transferred to

using the word *terrorist* instead of *freedom fighter* to refer to a person who has been involved in a violent confrontation with a group of armed forces?

the medium of film (Monaco, 1977/2006, pp. 176-180). In each shot, there is a series of single signs which, in their combination, form a synchronous (since they coincide) syntagma. At the same time, diachronic syntagmas occur throughout the film by placing individual signs or synchronous syntagmas in temporal relation to each other in the process of editing and cutting together different shots (the montage). Similar to linguistics, paradigms in films result from the selected category of the signs: Which signs were (not) chosen to express something? At the same time, paradigmatic relations between actually appearing signs also exist within films. This, again, may happen within a single shot. For example, when a traffic light is shown in the film that jumps from red to green or a person is depicted that first smiles friendly but then changes into diabolic laughter. Paradigmatic relations can also occur between different shots. Here, some aspects from a shot are taken up and displayed in a modified form in another shot. Figure 4.3 shows such a paradigmatic relation from one of the analyzed commercials. A woman is jogging up a wooden staircase. A cut follows, and the woman can be seen walking up a spiral staircase inside a building. It should be noted that these two shots are also in a syntagmatic relation to each other due to their chronological sequence.

When it comes to »reading« the film in the sense of elaborating meanings, the focus is initially again on the smallest unit of analysis: the shot. The shot consists of individual signs. These signs may be manifold (Monaco, 1977/2006, pp. 176-218): on the one hand, the single elements of the *Mies en Scene* (the staging) must be interpreted as signs. This includes the setting, costumes, lighting, and the movements of the actors, i.e., all elements of the picture composition. Furthermore, the positioning and the movement of the camera must be seen as signs, as well as the elements of the sound. Besides, there may be inserts, such as images or text, which are placed over the narrative content. In sum, these elements create the meanings of the film. According to Hayward (2006, p.346), the meanings of a shot, a scene, and ultimately the film are determined by the signs that appear and their syntagmatic and paradigmatic relations. She also gives an example of how the previously described orders of meaning after Barthes (1957/1991, p. 113) are to be interpreted in films (Hayward, 2006, pp. 100-101). It is shown in analogy to Figure 4.2 in Figure 4.4. The denotation consists in the mere visual and auditory appearance of the cinematic content and its elements. The textual description of the same is often called *diegesis* (Monaco, 1977/2006, p. 178). The connotations refer to the cultural interpretation encoded in the denotations. The mythology or ideology here is that the connotative attributions are not perceived as such, but as something natural.

4.4 Applied Method of Analysis

Although the analysis of sign systems conducted by Barthes is very well suited to bring out the connotative meanings and ideologies they contain, it cannot be applied directly to video content. Barthes described his methodological approach either only on an abstract level without specifically addressing differences of media (Barthes, 1957/1991, pp. 106-160) or only in relation to non-moving images (Barthes, 1964/1977). For this reason, the method of analysis of the TV commercials applied in this study is based on

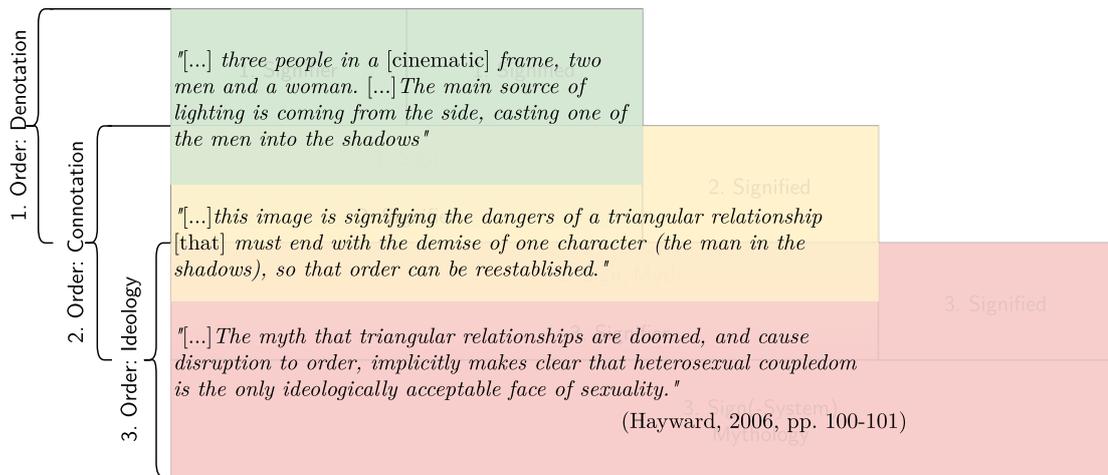


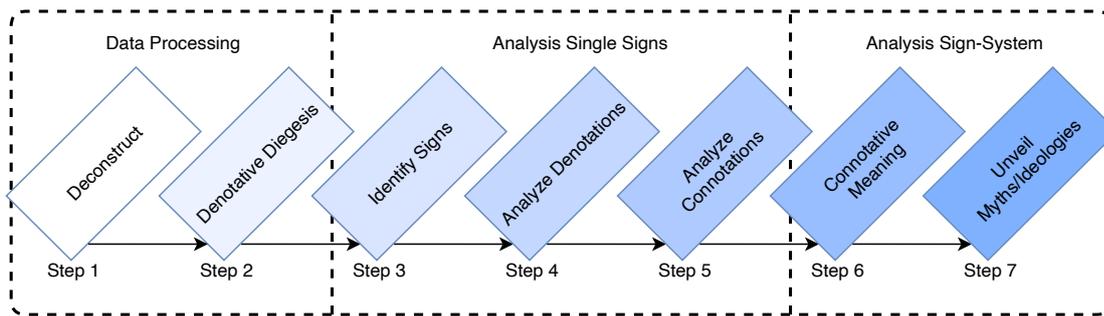
Figure 4.4: Example of the the orders of meanings in film with the different orders denotation, connotation and ideology; Source: Own illustration based on Hayward (2006, pp. 100-101) (Text) and Barthes (1957/1991, p. 113, 1964/1986, p. 93); Gonsalves (2010, p. 46) (Diagram)

Gallagher (2012). In his study of ideological messages in Critical Remix Videos, Gallagher attempted to unite Barthes' analysis of myths with Metz' film semiotics. Gallagher (2012) structured his semiotic analysis of video content in seven successive steps. In the present work, the method was adapted according to the differences in research interest and some differences in characteristics of the source material. Figure 4.5 schematically depicts the process and highlights the differences between Gallagher's approach (Figure 4.5a) and my adaptations (Figure 4.5b). In the following, the individual steps as well as adaptations are examined in more detail.

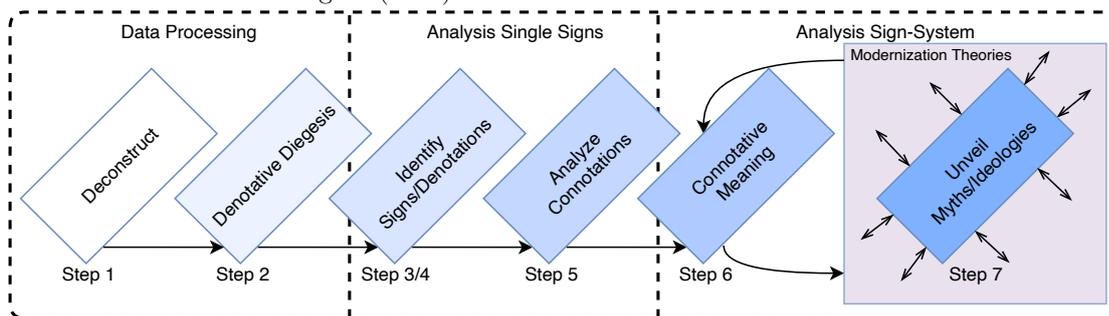
The first step is to deconstruct the video, i.e. to break it down into its smallest analytical components. As described above, Metz (1971/1991, pp. 105-107) argues that the smallest analytical unit in films is the single shot, i.e. the sequence of frames that runs continuously between two edits or cuts. For each of these shots, a single representative frame is taken out to produce a storyboard of the entire clip sequence. For each frame, a description of the events is created and any internal linguistic dialogues, written inserts, or external narrative monologues are written down (Gallagher, 2012).

The second step is to create a diegesis of the entire video sequence. This means that the entire clip is described with words. The aim is to create a content-related representation of what is happening (Gallagher, 2012). This description refers only to what is shown in the world of film and leaves out any external information (possible inserts, narrator monologues, etc.). Only what is represented in the cinematic world (visual, textual, linguistic) is presented (Hayward, 2006, pp. 101-102).

The first two steps serve on the one hand to prepare the data material for the subsequent



(a) Method for semiotic analysis of video content as developed by Gallagher (2012). Source: Own illustration based on Gallagher (2012)



(b) Applied method for semiotic analysis of video content adapted from Gallagher (2012). Source: Own illustration

Figure 4.5: The method developed by Gallagher for the semiotic analysis of video content (a) and the adaptation of the same applied in this study (b).

analysis, but on the other hand – as turned out in practical application – also to actively bring the cinematic content to mind and deeply explore it. Especially the creation of a diegesis is of great value in this respect. Due to the demand to transform visually perceived information into a textual form, many small details can be identified, which may remain unnoticed by pure watching. In the third step, all singular signs occurring in the video sequence are identified. For this purpose, the individual representative frames of the storyboard and the individual shots are re-screened and the characters occurring in them (including the shot in which they occur) are noted.

In the next step, each of the signs identified in the previous step is attributed to its denotative meaning. This raises the question of the existence of denotations in the sense of the »main meaning« of a sign. Gallagher (2012) proposes to base this step on definitions taken from a dictionary, which within a given cultural context could be seen as the normative framework for denotative meanings. In practice, however, it turned out that many of the occurring signs cannot be ascribed to any identifying signifier and that their identification already happens through a denotative description. For example, when it comes to certain activities of protagonists. *“Walking up stairs”*, for instance, is a case in which the descriptive denotation of the visually represented activity could

only be extended by the dictionary definitions of *walking*, *up* and *stairs*. This would translate to: “*to move or go towards a higher position on a set of steps built between two floors inside a building by putting one foot in front of the other on the ground, but without running.*”¹⁶. The absurdity of such a description should have been made clear by this example. The usefulness of such a denotative attribution can also be doubted since the sentence put together from dictionary definitions is hardly understandable and thus rather counterproductive for the analysis. For this reason, in the present thesis, the denotative meanings were interpreted as general descriptions of a sign. “*Walking up stairs*” is in itself the denotation of the visually represented activity. In the same way, the word “*forest*” was chosen as the denotation for the visual representation of a forest within the clip. This adaptation of the method can also be justified by the actual research interest. Gallagher (2012) worked out a complete analysis of denotations, connotations, and myths within video sequences. In his case, step 4 forms the concluding step of the denotative analysis of single signs. However, this does not serve any purpose for the further procedure of identifying connotative meanings and ideologies. Denotations of single signs alone are not of interest in this study. Therefore, step 4 was not carried out as proposed but was integrated into step 3 by creating descriptions of the signs, which were then used as a basis for the next steps.

In step 5 the connotations of the individual signs are examined. Again, it could be argued that connotative ascriptions of single signs do not reflect the research interest. Here, however, the identification of the sign’s connotations fulfills an important intermediate step for the rest of the analysis. In practice, it has proven to be helpful to list the identified signs chronologically in a spreadsheet with their textual description and the number of the shot they appear in. For each of the individual signs, at least one, but usually several connotations were derived. Here it is necessary to start relating the signs with other signs within the shot. The focus was on connotations within the German-speaking or at least Western cultural area. A variety of sources can be used to determine these connotative meanings. Short internet research proved to be helpful¹⁷. In addition, literature was consulted that explicitly deals with the symbolism or connotative attributions of things, actions and iconic signs in Western culture (Cirlot, 2001; Olderr, 2012, Jung, 1988). In addition, the own attribution of meaning to things is also an important source. As a person who grew up and was socialized within the culture to be analyzed, one’s own connotative ascription as well as the knowledge of generally accepted ascriptions within the culture can be seen as a valid source of information. One’s own ascriptions also serve as a control instance for the connotations appearing on the internet and in literature sources.

The last two steps now serve the analysis of the sign system wrapped in the advertisements,

¹⁶Combined definition of *walk*, *up* and *stairs* taken from www.oxfordlearnersdictionaries.com

¹⁷In particular <https://wikipedia.de> (for associated ideas), <https://duden.de> and <https://visualthesaurus.com> (for synonyms/associated words) were used. Further, country-specific search results from non-personalized search engines such as <https://duckduckgo.com> can also provide information on connotations. It should be noted that this process is not about finding precise definitions of something, but rather culture-dependent associations.

the connotative meanings of the combined signs, and the ideologies behind them. In step 6 the individual signs are now viewed in their entirety by looking at syntagmatic and paradigmatic relations between them. The central questions to be answered are: What should a particular shot represent? What is the relation between the individual signs within the shot and across shots? What is the relation between the shots? Which messages should be conveyed in shots, scenes, or the entire clip? The relevant results of this process are condensed into a connotative summary.

In step 7 the time has come to put the connotative meanings summarized in step 6 into relation to their ideological foundations. Here, too, an adaptation to Gallagher's (2012) proposed approach was chosen. In his analysis, he concentrates on ideological messages within Critical Remixes. Critical Remixes are based on the idea of taking existing videos and edit/cut them together in such a way that the intended messages of the original video clips are changed. In his analysis, Gallagher assumes that both the original clips and the Critical Remixes carry an ideological message. These can be brought to light by comparing the connotative meanings of the originals and the remixes¹⁸. Gallagher can thus derive the ideology directly from the video material. Such a procedure is not possible in the case of the analysis of advertising clips since there is no object of comparison. What was available to me, however, was an initial framework for interpretation that was created through literature research. Some of the connotations could be interpreted in the light of these insights. Others required further literature research, thus extending the theoretical framework. At the same time, the expansion of the theoretical corpus enabled a more differentiated view on the connotations developed in step 6, which could thus be refined. In this respect, a cyclical hermeneutic discovery process was carried out, at the end of which the theoretical framework of interpretation presented in chapter 3, as well as a number of connotative meanings of and ideologies behind self-tracking technologies, were established. The latter is discussed in the next chapter 5.

¹⁸It should be noted that Critical Remixes often carry explicit political messages. Often speeches of politicians are taken up and transformed into alternative messages through visual and audio editing. For this reason, comparative analysis can be used to explore both the ideology and the counter-ideology of the two videos by contrasting them.

CHAPTER 5

Findings

In the following chapter, the results of the semiotic analysis will be presented. First, each advertising video is discussed in detail in the sense of a vertical in-depth analysis. Here, some general information about each TV commercial is given. Then a combination of the analysis steps 1 and 2 will be presented in the form of a textual diegesis of the events, including possible insertions and narrator monologues. Here, the continuous text represents the diegesis. Inserts and narrator monologues are shown in square brackets and italics. In addition, a storyboard (without text) is provided for each clip. Even if the storyboard and the diegesis are only partial steps of the actual analysis, they serve the general understanding of the readers. Unfortunately, the given medium of a thesis does not allow the presentation of moving images in their raw state. For this reason, the storyboard and diegesis should at least give a rudimentary impression of the content and the staging of the advertising videos, in the hope that this will be sufficient to enable the reader a better understanding of the findings even without having direct access to or knowing the video clips. Following this, the actual findings of the in-depth analysis are presented. For each TV clip, the connotative summaries from step 6 of the analysis are discussed.

Following the discussion of connotative meanings within each advertising, the connotations are placed in their historical and cultural context and thus brought into relation with their ideological foundation (step 7 of the analysis). This is done by taking the theoretical framework presented in chapter 3 into account. However, here the individual advertising videos are not taken as starting points. Rather, the theoretical concepts will be discussed along with their appearances in the advertising videos. In this respect, this section provides a horizontal overview across the individual commercials, focusing on the ideological foundation of self-tracking.

5.1 Vertical Analysis

5.1.1 Apple: There Is a Better You in You

Diegesis

(Figure 5.1 images 1 to 10) A man (Protagonist 1), estimated in his mid to late 30s, sits on a couch in a modernly furnished apartment. He has blond to ginger hair and has a full beard. It is broad daylight, and the sun shines into the apartment. The TV is running, and he has put his feet on the couch table while staring at the screen. He is wearing a dark turquoise but already visibly washed out and, therefore, lighter looking shirt with a breast pocket and baggy jogging pants. In his hand, he holds a cup from which he takes a sip. He looks tired and listless while staring into the TV. When he puts his cup down from his mouth, he notices that a double of him (Protagonist 2) is sitting in the armchair at the diagonally opposite end of the couch table. He looks utterly identical to him, except that he is wearing a Smartwatch with a red bracelet on his left arm. Protagonist 2 also has placed his feet up on the couch table. Protagonist 1 seems visibly irritated when Protagonist 2 smiles at him mischievously and much less tired-looking. Protagonist 1 turns his gaze away from his double and looks thoughtfully and somewhat ashamed at the floor. Suddenly a jingle sounds from the Smartwatch. It tells Protagonist 2 on the screen that it is now *“Time to stand”*. We learn from the Smartwatch that it is now 8:50 am, the outside temperature is 72°F (~22°C), and the UV radiation index level is 6.0. We also realize that the apartment is located in a town or village directly at the sea. Protagonist 2 follows the instructions, pulls his legs from the couch table, and rises from the armchair, above which a picture of a dirt road is hung on the wall, which leads directly to the sea. Protagonist 1 first observes the actions of his counterpart with interest and then imitates him: He quickly retracts his legs and stands up in a flash. They are now standing opposite each other in the apartment, and Protagonist 1 looks at Protagonist 2 in surprise but at the same time interested. Suddenly, a smartphone is heard ringing in the distance. The two of them look out of the window in the direction of the ringing phone where someone has already picked up and started the conversation. They realize that it is another doppelganger (Protagonist 3) of themselves, who is walking down the street outside their apartment in a brisk pace and is making a phone call using his Smartwatch. He differs from Protagonist 1 and 2 in that he wears a tighter-fitting, less washed-out shirt that shines brightly in turquoise. His trousers are also less baggy than the ones of the other two doubles. He says to the person he is talking to on the phone: *“Hey! Yeah, that’s what I was thinking”* and starts to laugh out loud. Protagonist 1 and Protagonist 2 first look after Protagonist 3 and then in each other’s eyes in astonishment.

(Figure 5.1 images 11 to 18) Protagonists 1 and 2 decide to follow Protagonist 3, who meanwhile is on a side street with little traffic. An older woman stands at the balcony and looks at Protagonist 3, still on the phone, walking along the street. Protagonist 1 and 2 are now only a few meters away from Protagonist 3. The latter walks on slowly when he suddenly notices that someone is following him. As he turns around to see what is

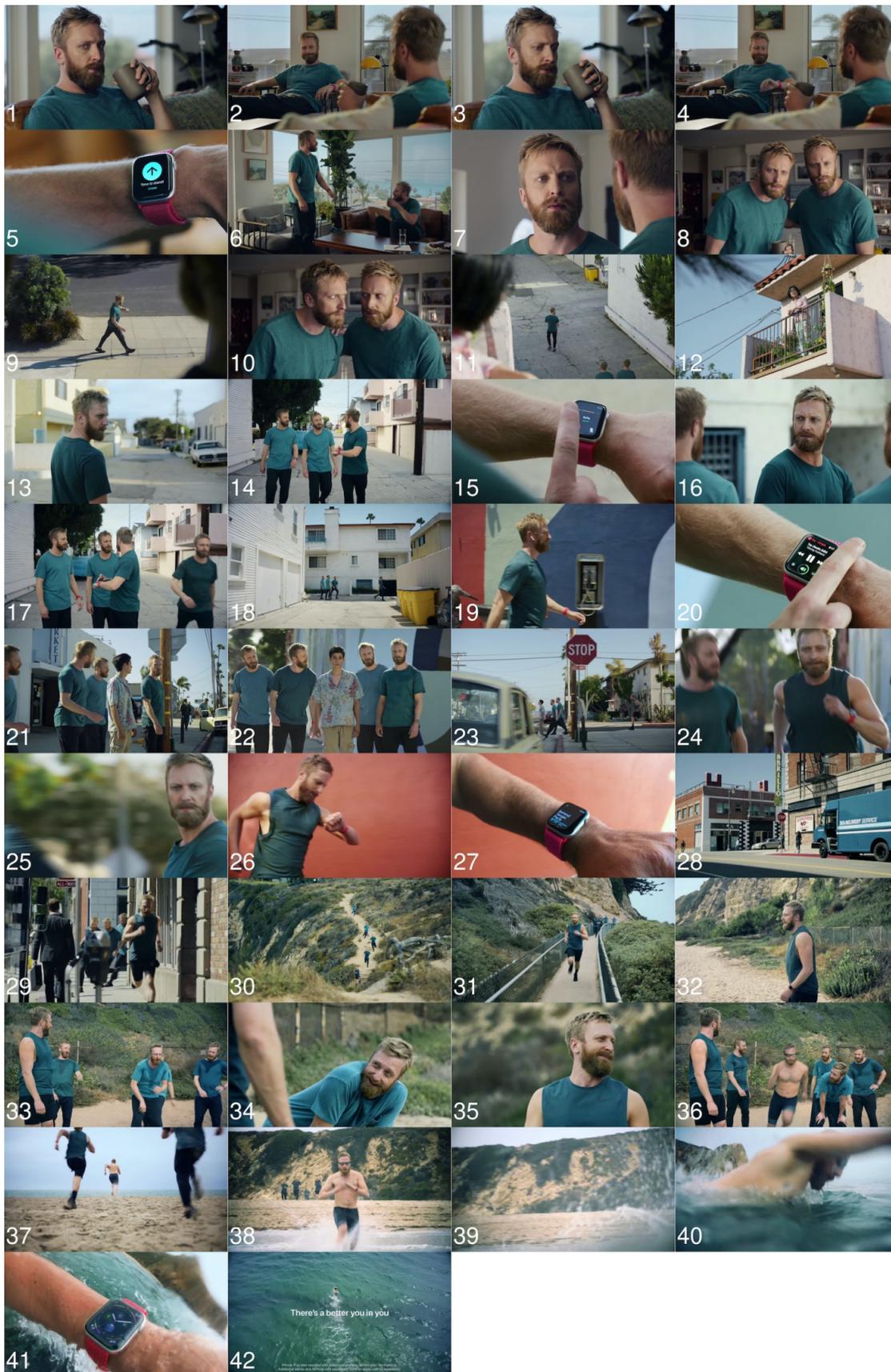


Figure 5.1: Storyboard of the Apple commercial without textual comments. Every single image stands representative for one shot. Own illustration based on Apple (2019)

going on behind him, he suddenly recognizes himself in its two doubles following him and cannot believe his eyes. The three are now standing right next to each other. Without saying goodbye to his conversation partner Sofia, he hangs up using the smartwatch and looks at his doubles in confusion, if not already somewhat frightened. The display shows that it is now 9:03 am. Suddenly another doppelganger appears behind Protagonists 1-3, passing them in a speedy and determined step. He also wears a shirt, but this one is now even tighter, goes more into dark green, shimmers, and looks like a light and sweat-repellent sports shirt. Moreover, he differs from the others by wearing in-ear headphones. Protagonists 1, 2, and 3, who were just busy with themselves, notice their fourth double as he passes them only a few centimeters away. They turn away from each other and follow Protagonist 4 at a similarly fast pace.

(Figure 5.1 images 19 to 25) It is now 9:17 am and Protagonist 4 swipes on the screen of his Smartwatch on the left side from bottom to top to increase the volume of the music he is listening to. We learn that he is listening to the song »Toy (Radio Edit)« by »Young Fathers«. Protagonist 4 reaches a road junction where a young man around 20 years old is standing. He has black, long, and combed back hair and wears a light blue to light green Hawaiian shirt with a floral pattern. In the background, a supermarket can be seen, and other people are walking along the sidewalk where the young man in the Hawaiian shirt is standing. He has his body turned towards the road and gives the impression that he wants to cross it. Protagonist 4, who also wants to cross the street, stops next to the young man. The young man looks at him, and Protagonist 4 turns his head towards the young man. In the meantime, Protagonists 1-3 reached the junction as well. The young man in the Hawaiian shirt turns his head back towards the street, raises his eyebrows, and his facial expressions show that he is impressed by the appearance of Protagonist 4. Protagonist 4, on the other hand, recognizes the Protagonists 1-3 behind him, turns his head towards the road, and makes a partly shocked and astonished facial expression. Thereupon all five of them start to cross the street. We now see that it is a crosswalk without traffic lights that was provided with a stop sign for cars. While they cross the street in a quick step, suddenly another doppelganger (Protagonist 5) approaches from behind. This one differs from the others by wearing a green tank top instead of a t-shirt and shorts instead of dark long jogging pants. Moreover, he is jogging contrary to his walking doppelgangers. Unlike his doubles, he doesn't stop at the street but runs across it without slowing down. He overtakes his doubles and the young man in the Hawaiian shirt approximately in the middle of the street. Protagonist 3 can be seen recognizing Protagonist 5 during his overtaking and looking confused.

(Figure 5.1 images 26 to 29) Protagonist 5 runs along a sidewalk when his Smartwatch beeps and tells him that he is behind his target pace. He currently needs 9 minutes and 13 seconds for one mile. We also learn that it is now 10:08 am. Protagonist 5 turns around a street corner at an intersection. At the corner, there is a bar called »Godmothers Saloon«. There is also a blue delivery car parked at the side of the road with the inscription »Delivery Service«. Again it is a junction with a stop sign, but this time without a crosswalk. A woman and a man holding a briefcase come towards him.

Closely followed, the Protagonists 1-4 also emerge from behind the street corner and run after Protagonist 5.

(Figure 5.1 images 30 to 42) The protagonists are now outside the town, all jogging on a dirt road built along a steep embankment. Meanwhile, clouds have moved in front of the sun. They are lined up after their reverse appearance: At the very front is Protagonist 5, followed by Protagonists 4-2 each 3-5 meters apart. Protagonist 1 is rather far behind in the last position. It can also be seen that the running technique of the five doubles improves with increasing position and looks more practiced. Protagonist 5 finally reaches a beach via a constructed path and stops there, looks briefly in the direction of the sea, and then directs his attention to his doubles, which also slowly arrive. He seems to be quite unstrained by his run, whereas his doubles with falling numbers look more and more tired, exhausted and drenched in sweat. Protagonist 1 arrives entirely out of breath at the beach and immediately has to support himself with his arms on his thighs. He looks exhausted but visibly pleased about his athletic success and throws a satisfied smile towards Protagonist 5. Protagonist 5, on the other hand, looks in the direction of the other 4, whom he smiles a little bit disparagingly. Suddenly something else seems to catch his attention: Another double (Protagonist 6) approaches the other Protagonists 1-5 who are standing in a group at the end of the constructed path. Dressed only in swimming goggles and sporty swimming trunks, he sprints directly through the group and runs straight towards the sea. Protagonists 1-5 watch him, whereby Protagonist 5, in particular, seems motivated to follow Protagonist 6. The latter finally dives into the sea with a header as the water reaches his knees. The others are right behind him, running across the beach towards the sea. The viewer's sight on the scene is temporarily blocked due to the splashing water of Protagonist 6's header. When the beach can be seen again, Protagonists 1-5 have suddenly disappeared. Protagonist 6 reappears after his dive and immediately begins to swim further out to sea in crawl style. *[Text insert: "There's a better you in you"; small print: "iPhone 6 or later required with additional wireless service plan. No roaming. Additional bands and AirPods sold separately Refer to apple.com for availability."; text insert changes: "Apple Watch Series 4"]*

Connotative Summary

About the Narrative Structure

The commercial portrays a man's morning routine(s). The depicted scenes take place between 8:50-10:10 am. The story is about how the main protagonist decides to get up from his couch to go for a walk, then decides to jog to the beach where he finally courageously dives into the sea for a swim. However, this storyline is not told continuously by the same protagonist, but episode by episode by one of the man's doubles. At the beginning still sitting alone on the couch, he is joined by a double in his apartment. The two then follow a third doppelganger (protagonist 3) walking along street, whom they discovered through the window. The three are then overtaken on the street by another doppelganger (protagonist 4), and they decide to follow him at a similar fast walking pace. At a crosswalk, the group is overtaken by a fifth double (protagonist 5).

Finally, the person who plunges fearlessly into the sea is the man's sixth incarnation (protagonist 6). With each appearance of a new doppelganger, the story is told from this new figure's perspective, who thus moves to the center of the narrative, while the previous doppelgangers – quasi as appendages of the past – fade into the background and try to keep up with the new character. Concerning the temporal continuum of the events depicted, at least two interpretations can be derived. One could be that the events take place on a single day, whereby the separate episodes are told retrospectively from the perspective of protagonist 6. Another interpretation would be that the individual episodes represent a chronologically consistent combination of different days, with each episode being narrated from the perspective of the currently »active« double. Which of these interpretations can be seen as »truer« cannot be determined, since some indications speak for one, some for the other. For example, shots 38 and 39 speak in favor of the first interpretation. Here protagonist 6 dives into the sea, with his doubles following him on the beach. After the water splashed from the header opens up the view on the beach again, his doppelganger has disappeared. This suggests that protagonist 6 is the clip's central character, while the others merely represent his retrospective egos. The shots 11 and 22 speak in favor of the second interpretation, since there other people perceive the protagonist's most recent ego. Whether the one or the other interpretation is correct or not is rather irrelevant for the following discussion. However, what is relevant is the observation that we are dealing with two overlapping chronological narratives in the clip. One chronology tells the events of one day in the previously described time period. The second chronology deals with the development of the protagonist over a longer period of time.

The Fragmented Subject: I Can Be Many

Concerning the chronology of personal development, it can be said that, although the viewer is confronted with one and the same person throughout the clip, each double represents a different personality of that very same person. Thus, each doppelganger embodies different personality-related characteristics within the narrative. These differences in personality are expressed through the actions performed on the one hand and – presumably to underline the differences – through clothing and appearance on the other. The two extremes are protagonist 1 and protagonist 6. We get to know protagonist 1 (shots 1-4) when he is sitting on his couch and takes a sip from a coffee cup while watching a baseball match on TV with a tired expression. He is wearing a washed-out t-shirt and wide jogging pants, his hairstyle looks wild and unkempt, and his legs are on the couch table in front of him. This conveys that protagonist 1 is a relatively relaxed contemporary, who possibly sleeps long, spends his free time watching TV and lazing around, and possibly only leaves his apartment when necessary. Protagonist 6, on the other hand, represents the contrast program. We get to know him at the very end of the commercial (shots 36-42), when he – despite the bad looking weather – dives into the sea without a hint of doubt or hesitation, dressed in sporty swimming trunks and goggles. This suggests that protagonist 6 is an active, fit, fearless, and determined person – a person who knows what he wants and accomplishes it in a consequent way.

Throughout the commercial, we see the gradual metamorphosis of personalities between protagonist 1 and protagonist 6. Protagonist 2 is already willing to get up from the couch. Protagonist 3 is no longer in his apartment at 8:50 am but already takes a walk outside. Protagonist 4, who single-mindedly pursues his own path in quick steps. Protagonist 5, who then prefers to run instead of just walking. At the same time, his appearance, his clothes, and his body language change. Here, it is conveyed that a person's ego is by no means static, but can be changed at will. With regard to technology, the transition between protagonist 1 and protagonist 2 (shots 1 to 8) is central. The former can still be seen without a smartwatch on his arm, while the latter, because he owns the technology, already appears happier, more stylish, more agile, and more active. The technology thus helps the protagonist to set his metamorphosis in motion and successively develop it further.

The »Good«, the »Bad« and the »Better«

What may already emerge implicitly from the previous observation of the personality metamorphosis, but should explicitly be made the analysis's subject, is the underlying valuation of the personalities. It is by no means the case that the different protagonists represent completely value-free personality traits. Initially only latently through facial expressions, gestures, and interactions, but ultimately also explicitly through the advertising slogan, they are categorized into a continuum of »bad«, »good«, and »better« personalities. For example, in terms of facial expressions, gestures, and interactions, this is already evident in the tired, almost sad facial expressions of protagonist 1 (Shot 1 and Shot 3). Another example of this latent valuation can be seen in shots 33 to 35, in which protagonist 5 looks back at his past egos and smiles at them in a pejorative way. In this latent form, these valuations could initially be traced back to purely personal assessments of the main protagonist. According to this interpretation, he would prefer to be like protagonist 5 rather than protagonist 1 out of his own free will. However, the advertising slogan tears this purely subjective valuation out of its individuality and establishes it as a collective value system: *“There is a better you in you”* (Shot 42). Thus the viewers are also conveyed without contradiction that protagonist 6 is a »better« person than his predecessors; that protagonist 1 is the »worst« person in this continuum; that the respective intermediate steps are a continuous upgrading from »bad« to »good« to »better«. This is also made clear in Shot 30, in which the personalities embodied through the protagonists are explicitly ranked in a hierarchy.

This valuation is thus also applied to the actions performed by the individual personalities. Getting up from the couch is better than sitting on it (metamorphosis protagonist 1 to protagonist 2). Being outdoors is better than being indoors (metamorphosis protagonist 2 to protagonist 3). Active walking is better than unhurriedly strolling (metamorphosis from protagonist 3 to protagonist 4). Jogging is better than walking (metamorphosis from protagonist 4 to protagonist 5). Swimming in the sea is better than just jogging to the beach (metamorphosis from protagonist 5 to protagonist 5). Thus, the use of tracking technology is also subject to the promise to make a »better« personality out of the current personality, whereby the advertising already predefines what is to be regarded

as »good« and what as »bad«.

Be a Role Model

A further indication of this universality of the staged value system can be seen in the scene in shots 21 to 23. This scene is remarkable because it is the only sequence in which a direct communicative face-to-face exchange between the main protagonist and his social environment is addressed (even if only non-verbally). Protagonist 4 reaches an intersection where a young man seems to be waiting to cross the street. Protagonist 4 stops next to the young man, their eyes meet. Shortly afterward, the young man turns his gaze back towards the street and raises his eyebrows as if to say “*not bad*” as a sign of his admiration. The theme here is how a »couch potato«, recognized as socially »bad«, can quickly become a role model for other people if supported by the advertised technology. This narrative is completed in Shot 23, in which the protagonist crosses the street together with the young man and thus »leads the way«.

You Can't Stop Me Now

In the very same shot 23 and the following, another promise of the technology can be derived connotatively. For the viewers, it becomes clear through the camera setting that the intersection is equipped with a crosswalk and a street sign saying “*Stop - All Way*”. This sign, often found on the west coast of the U.S.A., according to traffic regulations, states that it is posted at each of the streets connected to the intersection and allows pedestrians unconditional priority in the presence of a crosswalk. In this respect, neither the young man nor the main protagonist had to stop at the intersection.

Shot 23 is also the moment when protagonist 5 appears for the first time. He makes use of his right and runs the crossing without hesitation. In Shot 23 the stop sign is pointed directly at the spectators and we see Protagonist 5 crossing the street. In this view, it is made clear that the protagonist is no longer stopped in his development by external circumstances or »false« consideration. He takes what is his due and navigates unerringly and as far as possible independently through life, whereby the fitness tracker enables him to do so.

Set Goals, Achieve Them ...

As explained above, shot 2 is a crucial scene for the analysis of the connotative meanings of the advertisement and hence the tracking technology itself. On the one hand, because protagonist 2 seems far happier than protagonist 1, apparently simply because he owns the technology to be advertised. Retrospectively, however, it can also be interpreted in other ways. On closer inspection, it is noticeable that Protagonist 2 is sitting directly under a photo depicting a path leading to a beach. After watching the whole clip, we know that the beach is the target destination of the protagonists 1-5. In this respect, we can interpret the initial scenes as being the moment when protagonist 1 had the idea to change his life. The photo stands symbolically for the chain of thought, instead of sitting on the couch in the morning watching TV, preferring to move a little and become more active. It is the initial set goal that guides the actions of protagonists 1-5 throughout

the whole clip. At the same time, he imagines a possible future happier self, embodied by Protagonist 2, which he connotes with his idea. As we also know retrospectively, he is able to reach his set goal towards the end of the clip. Although the technology is not (yet) directly associated with the role of an inspirer for future objectives (see next paragraph), it is presented as a supporting technology to achieve self-set objectives. This is embodied by the logic of progression between protagonist 1 and protagonist 5. Thus, the main protagonist uses technology to develop increasingly sophisticated methods to achieve his goal in a focused and efficient way.

... and Grow Beyond

This theme of efficiency reaches its peak with Protagonist 5. His methodical approach to achieving the set goal represents the optimum. In shots 32 to 35, it can be seen how protagonist 5 looks back on his past egos in a very smug manner and sees this as confirmation that he has reached the very best. At this point, however, technology is not only associated with the optimization of methods but is also presented as an inspirer for future objectives. Protagonist 6 grows beyond the initial goal defined in Shot 2 by jumping into the sea, instead of just reaching it. Taking up the interpretation of the existence of »bad«, »good«, and »better« personalities, this also means that something like the best does not exist, and therefore there is always room for improvement. If the increase has reached an optimum purely methodically, it is time to change the goals and grow beyond oneself. Technology is treated as a means to this end. This interpretation is also supported by Shot 32, in which the old egos 1-5 suddenly disappear with the emergence of the newly set goal. Thus the leap into the sea, similar to viewing the image in shot 2, is equated with a new phase of life.

The Continuum of Past, Present, and Future

How technology may help be a role model, be unstoppable, achieve goals methodically and efficiently, set new goals, and become a »better« person is explicitly discussed. On the one hand, by mediating the continuum of past, present, and future and, on the other hand, by implicit or explicit instructions for action. First, to the former point (the second follows in the next section). When looking at the transitions between the respective »active« protagonists, a striking regularity can be observed. Whenever a new ego emerges, it initially does not perceive its past egos or at least does not pay attention to them (the exception is the transition between protagonist 1 and 2, although these scenes have a different special meaning with regard to the function of declaring goals, as described above). That new ego then temporarily becomes the central actor in the narration. Whenever the currently central ego perceives and observes its past egos, a new ego emerges. In a connotative sense, this indicates that the active observation of the past evokes a changed perspective on the status quo and thus makes a new future imaginable. In this respect, the main protagonist's past doubles are not interpreted as real phenomena but represent the datafied past egos, processed by the Smartwatch. As soon as the protagonist takes a look at this data of the past during his morning routines, he realizes his current status quo and develops further into a future ego. Within the narration, the rapid development is to be understood purely metaphorically. Nevertheless,

these transitions are meant to highlight that tracking technology, through its linking function between past and present, drives the future development of the personality towards a »better« self.

Technology Leads the Way

As mentioned before, the second means by which the technology promises to support reaching goals can be seen in implicit and explicit imperatives for action. These are visible within the clip at two places: The explicit call to action is seen in shot 5, in which the Smartwatch instructs Protagonist 2 to get up from his chair since it would be “*Time to Stand*”. The implicit call to action concerns protagonist 5 in shot 27, who is informed by the Smartwatch during his jogging tour that he is currently “*behind [the] target pace*”. This call for action is implicit insofar as the message is not directly imperative but latently requests to increase the speed to reach the targeted performance. Thus, an indirect call for action unfolds, pointing the user in a particular direction to achieve the set goals.

Permanent Insufficiency

From the staging of the aforementioned propagated function of the connection between past and present to change in the future, it can be deduced that this is not only an offer but partly a compulsion. For example, Protagonist 4 seems almost terrified in shot 22 when he realizes that he has not changed his habits at the crosswalk compared to his past selves. In sum, the clip conveys that the dynamization and change of one’s own personality and efficiency is a necessity. Maintaining the status quo alone is considered insufficient and inadequate.

5.1.2 Samsung: Is Your Body Telling You Something?

Diegesis

(Figure 5.2 images 1 to 2) A young blonde woman in her early to mid-20s is jogging in pink sportswear on a forest path. The sun stands flat in the sky and shimmers through the tree trunks and treetops. The scene is thereby interspersed with black and white contrasts. In the background, other people are jogging through the forest, but in the opposite direction. However, the woman does not allow herself to be distracted and does not pay attention to them. She runs straight ahead, her gaze focused on the distance. [*Female narrator: “Is your body telling you something?”; text insert: “Samsung Gear Fit”*]

(Figure 5.2 images 3 to 4) In the next scene, the woman is seen in a city, also running but this time towards a taxi. The scene takes place on a bridge that leads over a broad, multi-lane road. The sky is blue, and the sun is shining. In the background, skyscrapers can be seen. The taxi stands in the middle of the bridge and seems to wait for the woman. She is dressed in a casual outfit and wears sunglasses and high heels. While she is running towards the taxi, a man dressed in a black suit is coming towards her. When she reaches the taxi, she opens the door. On her hand, the Samsung Galaxy Fit can be seen. She is wearing bracelets that shimmer golden in the sun. [*Female narrator: “(Is your body*

heard. The door opens, and a man in a grey suit gets out. At the same time, the main protagonist gets into the elevator. She looks at her Samsung Galaxy Fit while she and the man pass each other right by the elevator door. She wears a red skirt and a blue blouse with a white collar. She is carrying some documents in her hand. A large glass facade is visible in the background. Through the windows, a high-rise building can be seen in some distance. Everything suggests that it is an office building. The Samsung Galaxy Fit shows the woman that it is 10:45 am and that a meeting is about to start. Further, an e-mail seems to have been received from a man named David. The woman is wearing gold bracelets, but this time a bit more discreetly than when she entered the taxi before. *[Text insert: "Samsung Gear Fit", "Instant Notification", "Network charges may apply. SMS alert & Call Reject require compatible Samsung device."]*

(Figure 5.2 images 9 to 10) The main protagonist can be seen walking up a steep wooden staircase in her pink sports outfit. The stairs are built in the middle of nature and lead up a slope at the end of which there is a forest. The surrounding grass and earth are wet. The sky is slightly grayish. *[Female narrator: "Telling you to speed up"; text insert: "Samsung Gear Fit", "Network charges may apply. SMS alert & Call Reject require compatible Samsung device."]*

(Figure 5.2 images 11 to 13) The woman can be seen again in the office building (again in a red skirt and blue blouse), walking up a spiral staircase carrying some documents with her. The stairs lead from a lobby to a gallery on the floor above. In the lobby, a woman sits on an orange armchair and talks to a man standing next to her. Another woman is sitting on a bench, who also talks to a standing man. There is also a man and a woman talking to each other on the gallery. While the protagonist is walking up the stairs in quick steps, the Samsung Galaxy Fit signals that she has reached her goal of 10000 steps for today. Unimpressed by this message, the protagonist continues walking up the stairs and direct her gaze to a point far above. *[Female narrator: "(Telling you to speed up) and when your goal has been reached"; text insert: "Samsung Gear Fit", "Fitness Coaching", "Network charges may apply. SMS alert & Call Reject require compatible Samsung device."]*

(Figure 5.2 image 14) Again we find ourselves in the forest, where the woman is standing next to the tree-trunk mentioned earlier and is just warming up by walking back and forth and jumping on the spot. She has a holder tied around her hip, from which a sports drinking bottle is hanging. *[Text insert: "Samsung Gear Fit"]*

(Figure 5.2 images 15 to 17) The main protagonist is in a nightclub. She is wearing a shiny silver evening dress and dances with a man on a dance floor. There are other people on the dance floor, all except the protagonist are dressed in black or rather dark clothes. The protagonist, as well as the other dancers, seem to be visibly amused. In the background, we can see a gallery where other people (also dressed in dark clothes) are standing, talking, or watching what is happening on the dance floor. It is relatively dark, and apart from the blue and magenta lighting, there is little light coming in. The protagonist notices a notification on her Samsung Galaxy Fit: It is David again, who tries to call her. She decides to reject the call by pressing the corresponding button

on the Smartwatch. The protagonist wears light fashion jewelry on her wrist. [*Female narrator: “Keeping you connected”; text insert: “Samsung Gear Fit”, “Call reject”*]

(Figure 5.2 images 18 to 20) Back in the woods: The protagonist is visibly exhausted and struggles to breathe due to her sports activities. She has poured some water from the sports drinking bottle over her head, holds the drinking bottle in her left hand while she looks at the Smartwatch attached to her right arm. The Smartwatch currently measures her heart rate: 119bpm. It is just 2:14 pm. There is water on both her hand and the Smartwatch. The protagonist is again running in her pink sports suit but has left the forest behind and is on a path whose end is not visible but leads directly towards the sea. The sky is still clear; only scattered clouds are visible. The sea seems calm. Only at the rocks rising from the shallow water the spray foams. Two men approach our protagonist as she purposefully runs towards the sea. [*Female narrator: “And run your life exactly how you choose”; text insert: “Samsung Gear Fit”, “Heart Rate Sensor”, “IP67 Dust & Water Resistant”*]

(Figure 5.2 images 21 to 23) [*A black background with the Samsung Gear Fit and a Samsung Smartphone (Galaxy S5) in the foreground. They rotate once around the vertical axis in the sequence. On the screen of the smartphone, there is a photo of the protagonist jogging. Some activity and body function data are also shown: 11230 steps, 1740 kcal burned, 1502 kcal consumed. At the bottom of the screen, there are four icons, including text: a shoe icon with “Pedometer”, an icon with a running person with “Exercise”, a heart icon with “Heart rate” and three squares and a plus symbol with “More Apps”. On the screen of the Samsung Gear Fit there are two arrows pointing upwards, and the text “Speed up”; text insert: “Samsung Galaxy S5”, “Gear Fit”, “Galaxy S5 sold separately”. Next shot: A black background with the text insert: “Are you ready?”; the text insert changes to the Samsung logo*]

Connotative Summary

The Analogy Between Work Out and »Real Life«

Throughout the whole clip, juxtapositions between sporting achievements and action in »real life« are indicated to on a paradigmatic level. The constant here is the young woman in a pink tracksuit who can be seen doing various sporting activities. These are each compared with actions from everyday life. In shot 2 she can be seen jogging from right to left through the forest. In Shot 3 she continues her run from shot 2 almost seamlessly, but this time in an urban scene where she runs in the direction of a taxi. In shot 5 she runs past a man quite closely, whereby the scene is viewed from her perspective. In shot 6 she again passes a man closely in the working environment, but this time the scene is seen from the man’s perspective. During her workout, the protagonist runs up a wooden staircase (shot 10) only to climb a spiral staircase at her workplace in the next shot (shot 11). In shot 14 she warms up by jumping back and forth on the spot, while in shot 15 she keeps this movement, but this time in an evening dress and on the dance floor of a club. This analogy, which is constantly repeated throughout the clip,

gives the impression that every sporting activity has a (positively connoted) effect on real-life actions. It is particularly noteworthy that the Samsung Galaxy Fit, which was primarily designed as a fitness tracker and thus for sports, plays no significant role in the sports context up to shot 18 (of a total of 20 shots with the actual storyline). Whenever the protagonist interacts with the Smartwatch up to this point, this happens exclusively outside of sporting activities. Hence, the fitness tracker is primarily presented as an all-around technology for everyday life, but always with a connection to its intended sports application. At the same time, this form of staging allows the conclusion that physical training is also a preparation for everyday life.

The Lonely Crowd

One detail that may not be noticed even after watching the clip several times, but which became evident during the analysis, is the social relationship between the protagonist and her outside world within the narrative space, which can be described as isolated (with one exception). The protagonist meets several people throughout the clip. However, she usually does not pay attention to them. At the same time, other people do not pay attention to her either. The only interaction with another person happens in shot 15, in which she dances with a man in a club. On closer inspection, it is even noticeable that there are a number of other athletes in the sports scenes in the forest, but they all run in the opposite direction (shot 1, shot 5, shot 6, shot 14, shot 20). This form of presentation can also be observed outside the sports scenes. In shot 3 the protagonist runs on a bridge towards a waiting taxi. In the background, a man is seen crossing the bridge in the opposite direction. In shot 7 a man gets out of the elevator while the protagonist gets in. In this scene, there are also other people in the background, and none of them seems to follow the same path as the protagonist. So it seems as if there is no single person in the narration who has the same interests or aims at the same goals as the protagonist. In other words, the protagonist pursues her own goals and interests against those of all the others.

On Setting Goals and Achievements

Concerning this previously mentioned antagonistic relationship between the protagonist and other people, it becomes clear that the subject of personal goals and the achievement of these goals is a central narrative of the advertising clip. This becomes particularly evident in shots 11 to 13 and shot 20 in combination with the female narrator's voice. The relevant related narrative text is as follows:

“[The Samsung Gear Fit is] *Pushing you to go faster, telling you when to speed up and when your goal has been reached.*”

In shots 11 to 13 the protagonist walks up a staircase when the Samsung Galaxy Fit tells her that she has reached her goal for today with 10000 steps. However, the protagonist seems not to be pleased with that. Symbolically, this is represented by a focused gaze that the protagonist directs upwards towards a more distant target or goal after reading the message. The last shot of the storyline (shot 20), in which the protagonist has left

the forest in the course of her sporting activities and starts her journey towards the sea, is also symbolically charged with the idea of reaching a final goal.

The role of technology in terms of personal goals is addressed in many ways. On the one hand, it serves to formulate the goals (“*Pushing you to go faster*”; the view up the stairs). At the same time, it is a pathfinder to pursue the goals or a method to achieve them. In doing so, technology acts as a guide (symbolized by “*telling you when to speed up*”, a fenced-off path towards the sea, which thus offers free and safe guidance). In addition, there is the feedback and advisory function of technology (“[telling you] *when your goal has been reached*”).

Thus, the technology is presented as a universal partner with regard to realizing one’s own goals, with whose help these goals can be achieved easily and independently. Further scenes support this interpretation. For example, in shot 5, the protagonist, while running at full speed, easily jumps over a tree lying across the path, which can be interpreted symbolically as an obstacle between the protagonist and her goal. Independence is evident, for example, in the staircase scene in shots 11 and 13. In the background, pairs of people, each consisting of a woman and a man, can be seen talking to each other but standing still. Only the protagonist is on the move, but she does not need other people as partners, as she receives constructive feedback and instructions from her fitness tracker.

Catalyst for Flexible Vertical Role Management

Within the clip, the protagonist can be seen in 4 different role contexts, each symbolized by different clothes and accessories on her arm (which the protagonist wears in addition to the fitness tracker): Working out in the forest; leisure in the city; work in the office; pleasure in the nightclub. In each of these contexts, the functionality of the fitness tracker is shown at least once. As noted above, this is intended to suggest that the gadget is useful in all these contexts and not just for fitness. However, the forms of presentation of the respective contexts and how the protagonist acts within them are of particular interest. We see a woman who is highly focused (always looking straight ahead), goal-oriented (does not let herself be distracted by other people) and body-conscious (fitness tracker provides data on steps & heart rate) while she pursues her sports activities. A woman who, even in high-heels, dynamically runs after a taxi in the morning (Smartwatch shows the time) in her free time. A woman who is fully concentrated (facial expression), ambitious (gestures while walking), well prepared (documents in hand), informed (fitness tracker shows appointments and mails) but by no means narrow-minded (colorful business outfit) in her daily work routine. A woman who lets her weekends fade away (facial expressions & gestures) and does not let herself be distracted by anything in doing so (David, a work colleague as we know from previous scenes, calls her while she is dancing. She rejects the call via the fitness tracker). The technology is always staged as a supporting medium, which helps the woman take on her role as best she can (in the clip almost in a clichéd manner), find her way around it, and be absorbed by it. Thus, the propagated promise is a situation-independent help in coping with the respective role, which we take on in our frequently changing social relationships.

Catalyst for Long-Term Horizontal Social Advancement

Besides this flexible coping with roles in different contexts, the clip also deals with the protagonist's social advancement. Of particular interest are the shots 9 to 13, which deal with climbing upstairs, as already discussed earlier. The stairs can be seen as a path between different social strata or steps in the personal career, and walking up them is an ascent and is therefore connotated with success. What is presented as training in the shots 9 and 10 becomes reality in the shots 11 and 13, in which the woman climbs the stairs at her workplace. Here too, technology is presented as the pathfinder or even as the stairs themselves, which provide the connection between those different levels.

The Promise of Freedom and Control

Towards the end of the clip, the previously mentioned goals and their fulfillment are extended by an idealistic vision. To underline this, a more extended composition of the clip's narrative text is given below:

"[The Samsung Galaxy Fit is] Pushing you to go faster, telling you when to speed up and when your goal has been reached, keeping you connected and run your life exactly how you choose."

The ultimate goal is – as the message suggests – to live a free, self-determined life following one's own rules. The fitness tracker can contribute to accomplishing this. How exactly this can be achieved by using the gadget is not explained explicitly. One interpretation might be that the tracker is understood as support by giving instructions to achieve self-set goals. In this respect, the ability to set one's own goals is perceived as an expression of freedom. The device serves as a signpost leading the right direction to achieve them. If this is the case, however, the question arises what a free, self-determined life means, since the fitness tracker prescribes actions in a rather imperative form. Another interpretation is that the promise of objectification of one's own body is linked to the idea of reduced insecurity.

Who Tells You Something and What Exactly?

Finally, the very first statement of the voice-over needs to be considered more carefully. It is of particular interest because it can be interpreted (possibly intentionally) in at least two different ways.

"Is your body telling you something, or is it your Samsung Gear Fit?"

Here the rhetorical question is raised, who tells the user something about oneself. On the one hand, this question can be interpreted to mean that it is not entirely clear whether the instructions "Pushing you to go faster" and "speed up", the feedback "goal reached" or in general the data measured and the statistics evaluated by the tracker have their origin in the tracking technology, or in the users' body and actions themselves since the latter provide the data for the corresponding calculations. In this respect, tracking technology is presented as a reliable, quasi-magically functioning interpreter and translator of previously existing knowledge and potentials. So the technology comes with the promise of bringing those hidden potentials and implicit knowledge to light.

On the other hand, this rhetorical question can also be understood to mean that everything that becomes conscious through the perception of one's body and Self can be doubted, especially since these are »only« subjective sensations without a corresponding data basis. The credibility of one's own perception is called into question. Conversely, this would mean that only that kind of knowledge about the body and the Self is relevant and credible, which is produced by the tracker through numerical evidence. The knowledge about these objectified body functions can then ultimately be used to live a free and self-determined life, as discussed before.

5.1.3 Garmin: Beat Yesterday

Diegesis

(Figure 5.3 images 1 to 2) A mechanical wooden metronome stands on a smooth surface in some interior space. The focus is on it; the background is blurred and appears dark and gloomy. The metronome is switched on and swings from side to side. The metronome's settings show that it is set to a rather fast Allegro-Moderato-beat (approx. 116-120 bpm). However, the visible swinging and the audible ticking indicate that it oscillates in the scenery with a little more than 70 bpm and thus follows an Andante-beat. The ticking is at first rather quiet and slowly gets louder.

(Figure 5.3 images 3 to 4) When it reaches its volume maximum, a man is seen. He is lying on a sports mat next to a swimming pool. It is very dark, but a brightening of the sky can be seen on the horizon. The swimming pool seems to be on the terrace of a house with a glass facade. The parapet of the terrace is also made of glass. The house seems to be on an elevation, since, except for a few protruding treetops, nothing but the grey sky can be seen through the glassy parapet. The man on the sports mat is only dressed in sporty leggings and lies on his back with his upper body naked. His arms are spread to the left and right. Only his legs are stretched out straight in a vertical direction away from the floor, and he swings them along his horizontal axis from left to right, similar to the way the metronome swung from left to right before. He wears a smartwatch on his rather muscular left arm.

[Text insert at the bottom throughout the shots 4, 5 and 6 (see Figure 5.3): "screen images simulated"]

(Figure 5.3 images 5 to 8) The protagonist is now outside the house at the front door. Despite continuing darkness, he is now easier to recognize. He is about thirty years old, clean-shaven, and has a short haircut. In addition, he is now wearing a dark blue, close-fitting training shirt. The man seems tense as he walks away from the front door. He first looks to the left from his perspective, takes a step forward, directs his gaze downwards in a concentrated manner, and takes a deep breath. The protagonist – still in the dawning – can be seen jogging relatively quickly along a street lined with houses, wearing shorts, the dark blue training shirt, and the Smartwatch on his arm. It is slightly foggy. He runs in the middle of the street towards a junction. At the junction, there is a construction site. It is located directly at the left corner of the street that the protagonist

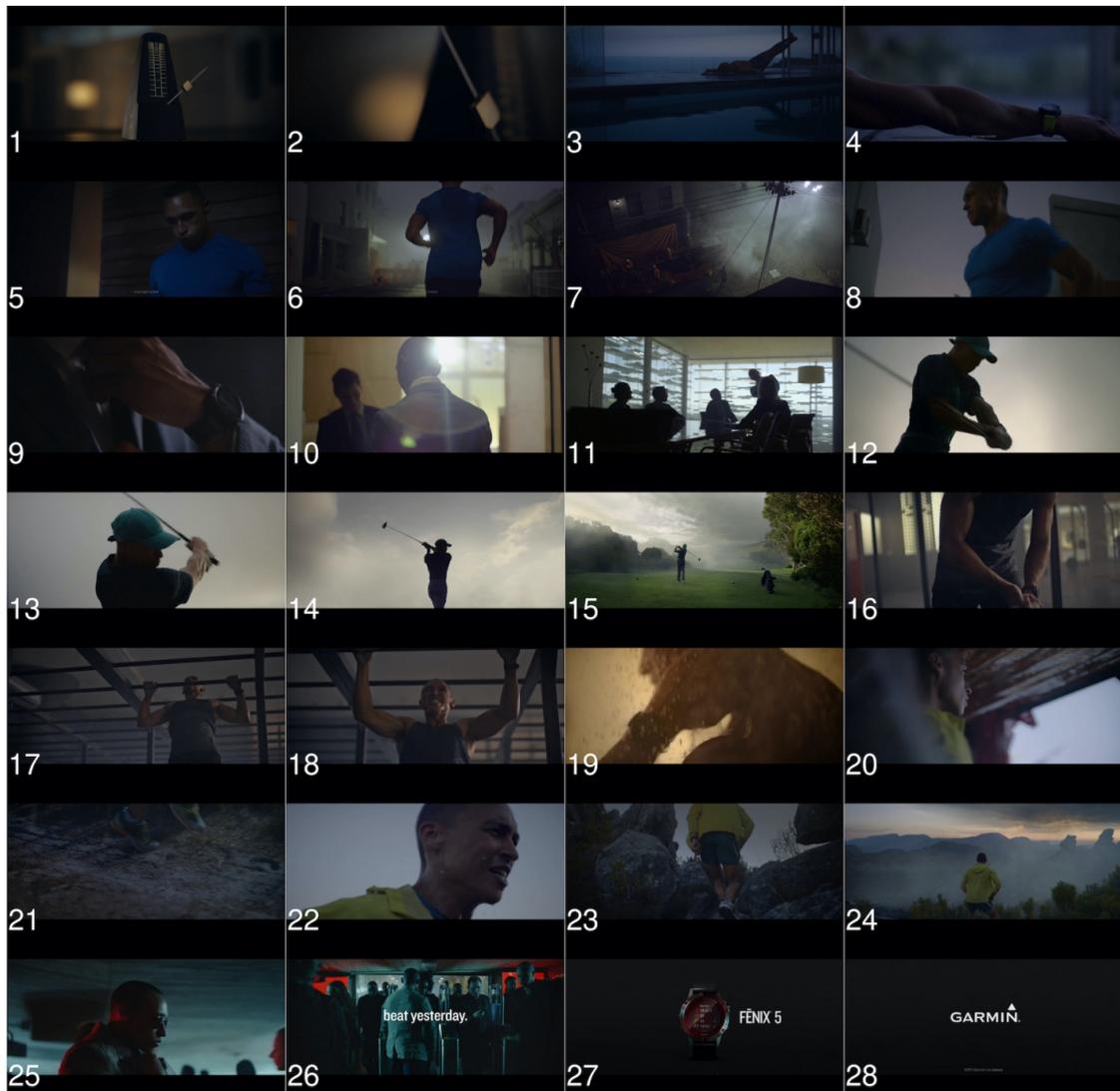


Figure 5.3: Storyboard of the Garmin commercial without textual comments. Every single image stands representative for one shot. Own illustration based on Garmin (2017)

is running along. At the construction site, four men in helmets and high-visibility vests are currently working. A jackhammer can be heard. The protagonist is running past the construction site and turns into the side street on his left. Three of the construction workers seem to notice the man and watch him turn around the corner. The sky gets a little bit brighter now, and the protagonist is still running, but now seems to have speeded up. He is running down a block. In his face, it can be seen that he slowly reaches his limits. However, he keeps his pace and takes another deep breath.

(Figure 5.3 images 9 to 11) Now we see the protagonist – wearing an elegant grey suit with a white shirt underneath – tying the knot of his tie with his left hand. On his left arm, he is still wearing the Smartwatch. Suddenly, the sound of an elevator reaching its destination floor is heard. An elevator door opens. The protagonist in the grey suit steps out of it. At the same time, another man dressed in an elegant suit is waiting in front of the elevator door. The protagonist and the man seem to know each other. As the protagonist steps out, he passes the other man. The two greet each other with a restrained nod. The other man nods and directs his gaze on the ground as he passes the protagonist. The protagonist also nods at the other man but keeps his gaze fixed on him. The protagonist can now be seen – still dressed in the suit – in a work meeting. It is relatively dark in the room, even though it can be seen through the windows that the outside sky is blue and the sun is shining. The protagonist stands at the end of a long meeting table. Right next to him at the same end, sits an elderly bald man. Besides, three other people are sitting at the long ends of the table: A woman with open blonde hair, a young man with slightly longer hair, and a young woman with dark hair pinned up to a bun. All persons in the scene are wearing elegant business clothes. While our protagonist is standing, the four other people sit at the meeting table and look up at the protagonist with fascination. The young man and the woman with dark hair seem to have a smile on their lips as they watch him. The protagonist moves his body as if he were holding a driver (golf club) in his hand, pulling it through with full force. In the background, a masculine voice says *“Let’s go!”*.

(Figure 5.3 images 12 to 15) We can now see the protagonist as he is really holding a driver in his hand, dressed in golf clothes and a baseball cap. He still wears the Smartwatch on his left arm. We can see and hear the protagonist swinging the driver three times at full power and hitting a golf ball. He is now at a golf course. Trees can be seen to the left and right as well as a hilly landscape in the background. In the middle, the green of the golf course can be seen. The sky is very cloudy. However, some sunlight shines through the cloud cover. From the left, a waft of mist is just entering the golf course, making it difficult to see the distant green. After the protagonist’s third shot, one can see how he swings the driver behind his back and then watches his golf ball flying towards the approaching fog.

(Figure 5.3 images 16 to 19) The protagonist can now be seen in a gym, wearing a black tank top and the Smartwatch on his arm. He is already bathed in sweat but still seems motivated and therefore claps his hands before he dries them using a towel, which he then drops on the floor. Above his head, there are longitudinal and cross braces mounted

on the ceiling, which form a grid. Only a little light enters the room through the windows. The air seems hazy and humid. The protagonist jumps with his arms stretched upwards towards one of the crossbars, holds on to it, and immediately starts to do some pull-ups. Another person passes by in the background. Cheers can be heard from a distance. From the facial expressions of the protagonist, we can see that he is already at his limits. Nevertheless, he continues to do his pull-ups. After his session, the protagonist takes a shower. He washes his head with his left hand, where he wears his Smartwatch. Water drips from his face.

(Figure 5.3 images 20 to 24) The protagonist is now in the open air. It is raining heavily, and he wears a light yellow sports jacket. On his arm, he again wears his Smartwatch. He took shelter under a free-standing canopy due to the heavy rain and seems to wait until the storm subsides a bit. In doing so, he stares into the distance without any movement. The protagonist is jogging along a wet dirt road in his light running shoes, shorts, and the rain jacket. It is still raining, and despite the jacket, the shirt underneath seems to be completely soaked. Raindrops roll off his face. Again he takes a deep breath while running. Shortly afterward, he runs up a rocky acclivity off the dirt road and jumps skillfully from one stone to the next until he reaches the top. There he stands on the highest stone in his immediate vicinity. It has stopped raining now, and the horizon is shimmering in the sunset while the scene itself looks a bit dark again. The protagonist looks from his raised stone into the scene in front of him: He is in the mountains. Directly in front of him, a valley with a road shrouded in a light fog. Mountain peaks can be seen in the distance. Some are above others below his present location. He pulls up the legs of his shorts a little and squats down while letting the panorama take its effect. *[Male narrator: "Today only comes once..."]*

(Figure 5.3 images 25 to 26) The protagonist is in a dark metro station. He wears a light grey suit jacket, but this time a little more casual than before at work. On his left arm, he is wearing the Smartwatch. He walks down a corridor while he puts on his sunglasses (despite the rather sparse lighting) and then straightens his jacket's collar. Along the corridor, more people can be seen, walking in the opposite direction of the protagonist. *[Male narrator: "(Today only comes once.) Here's to those who take that as a threat"]* The protagonist approaches the gates of the metro station through which a large mass of people pass, all of them walking in the opposite direction. All people look down either at the floor or at their smartphones. Only the protagonist has his head turned forward. When he reaches the gate, a woman comes towards him. Unimpressed by the crowds, he passes the gate simultaneously with the woman and without slowing down his pace. The two do not even look at each other while they walk through the narrow gate at the same time. The protagonist disappears in the crowd. *[Male narrator: "(Today only comes once. Here's to those who take that as a threat,) and crush it!"; Text insertion: "Beat Yesterday"]*

(Figure 5.3 images 27 to 28) *[Black background; The Smartwatch is shown in the foreground, displaying some measured activity parameters of the day and then switching to clock mode; Text insert beside the smartwatch: "Fenix 5"; New shot: Text insert: "Garmin.*

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Connotative Summary

The Narrative Structure of the Clip

By looking at the shots in their entirety, it can be seen along the syntagmatic axis that this clip represents a chronologically consistent narrative of a single day, which is divided into seven different scenes. The clip begins early in the morning before sunrise, with the protagonist first doing yoga exercises and then going jogging at dawn. Afterward, he can be seen at a work meeting, whereby the blue sky visible through the windows suggests a more advanced time of day. Subsequently, we see him on a golf course, with a storm approaching on the horizon. The next scene takes place in a gym, whereby no conclusions can be made about the time of day. However, the protagonist is shown jogging in the pouring rain and under a grey sky afterward, which narratively connects to the already greying sky depicted in the golf scene. He then enjoys the panorama of a mountain range at dusk. Finally, we see him walking around in an urban area in a casual outfit, which suggests that he is going on a private date in the evening. Finally, the narrator’s voice is used to make clear that the scenes are all about the same day: *“Today only comes once”*

The clip is characterized by its rather abstract discussion of the product to be advertised. The fitness tracker plays only a passive role throughout the storyline. Although the protagonist is explicitly shown wearing the tracker on his arm in at least one shot in each scene, no attention is paid to the device’s functionality. This circumstance leads to the assumption that the advertisers are less concerned with explicit functionality than with the illustration and staging of a lifestyle, which is to be connotatively associated with the fitness tracker. For the following analysis, this means that the focus is first of all on the narrational content itself and less on linking it to the technology. At the end of this detailed analysis, however, I will come back to this circumstance and argue to what extent the fact that functionality and interactions are not explicitly addressed can itself be interpreted as a separate meaning of the clip’s.

The Shortage of Time in a Threatening World

However, before going into the individual connotations of the clip’s content, the two central constants that can be understood as the thematic focus of the clip are to be worked out. These constants ultimately culminate in the advertising slogan of the fitness tracker at the end of the clip. What is probably noticeable at first glance is the dismal atmosphere. This circumstance becomes especially apparent in the general darkness of the scenes and is intensified by recurring haze, clouds, or fog. Dark shades of color that reach into gray and black dominate. Just a look at Figure 5.3 shows that the basic tone of the clip is much darker than that of the other advertising clips analyzed. That this darkness is an intended stylistic device can be deduced from the contrast between background and foreground in the scenes that show the protagonists in his working context (shots 9-11). Through the windows in the background, it can be seen that the sun is shining brightly outside, but the depicted actions take place in the dark. All in

all, this makes the clip's scenery appear threatening in each of the contexts shown. This visual representation is supported by the background music, which creates a suspenseful atmosphere through rapid changes between calm and agitated passages.

The second central constant is the thematization of scarcity and compression of time. At the beginning of the clip, a metronome is displayed in shots 1 and 2, which ticks continuously and evenly. It swings back and forth at about 70bpm, ticking clearly audible to the viewer. Following the first two shots, the metronome's beat goes over into the background music, but becomes audible again in quieter parts (for example in shots 10 and 11 or shot 25) and is even briefly doubled in shot 23 (approx. 140 bpm). The metronome, which originally comes from music and is meant to provide a regular beat to play instruments, can be understood differently within the clip. The ticking indicates that time is running out.

Ultimately, these two constants are brought together by the narrator's text at the end of the clip: *"Today only comes once. Here's to those who take that as a threat... and crush it"*. At the same time, the advertising slogan *"Beat Yesterday"* indicates that the threat of today's shortage of time must be viewed in relation to the past, and thus each new day must be compacted even further. In this respect, the clip's central message is clear: time is a scarce resource that needs to be filled in a meaningful way. The ideas according to which this filling is to be accomplished are thematized in the individual narrated episodes of the protagonist's actions and are described in more detail below.

The Self-Determined Machine-Clocked Human

At the beginning of the advertisement, an interesting connotative linkage can be identified, which is established by a paradigmatic connection of shots 2 and 3. In shot 2, we see the metronome oscillating back and forth. In addition to the previous interpretation of trickling time, the metronome can be understood in its original function as a mechanical pulse generator in music. In this function, it helps musicians to maintain a constant rhythm over longer periods of time and helps in synchronously controlling their actions by giving certain motion sequences a defined and predictable »deadline«. Through the transition from Shot 2 to Shot 3, this connotation of mechanically precise clocked action is transferred directly to the protagonist. In shot 3, the metronome's swinging pendulum is paradigmatically equated with the swinging of the protagonist's legs during his yoga exercises. The fact that the advertisers do not use a clock but a metronome to symbolize time and rhythm of action can be interpreted by the fact that the metronome, in contrast to the clock, sets a self-determined rhythm. This self-determination is also expressed by the fact that the metronome, as an external mechanical pulse generator in the music, is transferred to a human being in the clip. Thus the human being is represented as the pulse generator of his or her own action. However, it is significant in this context that the protagonist has set his rhythm (approx. 70 bpm) above that of a conventional clock (60 bpm) and thus has timed his mechanical activity above the generally accepted benchmark of the second. In his self-determined rhythm of action, he acts faster than conventionally.

The Work on Oneself

An interesting metaphorical analogy between the protagonist's actions and their intended meanings is established in shots 5 to 7. These shots, presented as a coherent scene, show the protagonist standing at his front door in a running outfit, taking a deep breath, and then jogging in the early morning. He runs along a street in a residential area and reaches an intersection with a construction site and four workers. This construction site, which is acoustically and visually at the center of the scene and thus in analogy to the protagonist's jogging, can be interpreted as an active treatment of the own body. The protagonist transforms himself actively and purposefully within the scope of his sporting activities.

Respect, Recognition, and Admiration

In shots 9, 10, and 11, the protagonist is thematized in his working environment. In Shot 10, we can see him getting out of an elevator while another man is just getting in, nodding each other appreciatively as a greeting. What is striking about this scene is their body language. While the person entering the elevator keeps his head bent down after nodding and avoids eye contact, the protagonist keeps his posture straight and looks the other person directly in the face as he passes by. In terms of body language, this scene thus expresses a form of subordinating respect of the other person towards the protagonist. In scene 11, the protagonist can be seen standing at a meeting table while other four people are sitting at the table. In this scene, he is imitating the gestures of a golf shot. The other four people stare spellbound at the protagonist and have to look up at him from their sitting position. These two scenes suggest that the protagonist is a person who is respected, recognized, and admired at his workplace.

No Fear of the Uncertainty

Following the merely mimed golf shots, the protagonist can be seen playing golf effectively. The golf course is located in the middle of nature. After the third stroke with a driver, we see him looking spellbound after his golf ball. However, its flight path leads directly into an approaching waft of mist. This scene can be connotatively interpreted as meaning that the protagonist is not afraid of the unknown. Even if he does not easily recognize where his efforts are leading him, he continues to work single-mindedly to consistently »do his thing«.

Beat Yesterday

As in some of the other commercials, the previously identified treatment of the own body and Self is also thematized in the context of crossing boundaries and exploring personal performance peaks. For example, in Shot 8, in which the protagonist accelerates his already rapid jogging step and takes another deep breath in the sense of »struggling through«. A similar situation can be observed in the gym-scene (shots 16-18), in which the protagonist – although already bathed in sweat – does some pull-ups. His cramped face indicates that he has already reached his limit. The scene that follows, however, expands this transgression narrative also known from the other videos. In shots 20 to 24,

the protagonist is depicted under a free-standing canopy protecting him from the onset of rain. In the next shot, he can be seen how he nevertheless carries out his planned run despite the pouring rain, again with a cramped face as an expression of his efforts. He then climbs a rocky hill to overlook the panorama of a mountain landscape. At this point, it has already stopped raining.

Considering the advertising slogan of the fitness tracker “*Beat Yesterday*”, this scene can be interpreted as overcoming mental barriers to achieve peak performance. Up to this point, it has been a relatively smooth day. The rain, however, seems to put a damper on the protagonist’s plans. In addition to his physical limits, he also has to overcome mental and external barriers. He himself and not external circumstances decide when to take a break (which he takes later on the hill to view the panorama). In this respect, again, a promise of self-determination in one’s own actions, independent of external conditions, is evident. In order to »Beat Yesterday«, as promised in the slogan, it is not only essential to outperform physically but also to overcome mental barriers. This also applies to adverse circumstances. Only in this way is it possible to repeatedly »beat yesterday« in the long run and to »crush the threat« of a lack of time available on a single day.

Where do I Stand?

This last jogging scene also marks the end of the protagonist’s sporting day within the clip. It is interesting to see how it is staged and what is presented here as »the final goal«. In shot 23, the protagonist climbs the hill by jumping from one stone to another. He climbs the highest point in his immediate vicinity. Once there, he sits down in a squatting position and lets his gaze wander over the mountains in front of him in complete stillness. This panoramic view of valleys and mountains below and above the protagonist can also be interpreted as a way of gaining an overview, with his position as the reference point. In essence, the connotation is that the protagonist can ultimately get an overview of his current position and see where the path might lead.

Swim Against the Current

In the last scene, the protagonist is portrayed in a subway station, entering or leaving it. This scene shows a similar picture to the one in the Samsung Gear Fit advertisement. The protagonist is walking in the opposite direction to all the other people in the scene. Analogously, this can be interpreted as the protagonist swimming against the current, having different goals, and going his own way. He is not dependent on the help of others. He does not seem to be impressed or intimidated by the mass of people who flow towards him and have thus collectively chosen a different path or goals. In contrast to the other people, his walk is upright, his gaze is directed forward and thus radiates sovereignty and self-esteem. On the other hand, the other people seem absent, apathetic, and sometimes stare at the floor or into their smartphone. In this respect, it is also suggested that the protagonist is on the right path while the others are heading in the wrong direction – despite acting in collective.

The Success Proves the Technology Right

As indicated at the beginning, in all the scenes shown in the clip, the technology itself only plays a secondary role. At the center is the staging of a lifestyle. This lifestyle refers to a successful personality who can afford to live in a villa with a pool. At the same time, the lifestyle enables the protagonist to pursue a range of sports and leisure activities in addition to work. He is respected as a person and is portrayed as a goal-oriented, athletically active, and strong personality. The merely implicit thematization of the product can be interpreted in view of this staging as a separate meaning of the clip: Namely, that the possession of the technology alone enables the users to lead an equally successful life. The tracking technology acts magically in the background and does not require the users to do anything themselves to accomplish a successful life. It emphasizes the »smartness« of the device and enhances the radiance of the advertised product.

5.1.4 Fitbit: Some Numbers Mean More Than Others

Diegesis

(Figure 5.4 images 1 to 2) A slightly corpulent man (protagonist 1) at the age of 50 with short brown hair sits on the closed toilet seat in his bathroom. Daylight enters through the milky bathroom window. However, it is a little dark in the room. He wears a black, tight-fitting sports bodysuit for men and a white tank top. Opposite the toilet is the bathtub, where he has put his stretched left leg on. His leg is covered with shaving foam. He wears a Fitbit Ionic fitness tracker on his left arm. In his right hand, he is holding a pink ladies razor with which he is shaving his left leg.

[External audio from shot 3 to 18: The melody of “Happy Birthday” is played slowly with a piano.]

(Figure 5.4 image 3) A man around 60 (protagonist 2) is standing in his bedroom in front of a wall-high mirror. He has long, grey hair and a full beard that turns grey at the chin. On his left arm, he is wearing a fitness tracker. Next to the mirror, a wetsuit is hung on the door with a coat hook. He is wearing a close-fitting black sports bodysuit with short trouser legs. The upper part reminds of a tank top. As he critically looks at himself in the mirror, he adjusts his crotch to the tight fitting suit and swings his arms back. He seems uncomfortable with the suit and tries to make it fit a bit more smoothly. Then, he takes a deep breath.

(Figure 5.4 images 4 to 5) A man around 50 years old with a bald spot (protagonist 3) and in a blue training shirt stands on a street. On the fitness tracker he is wearing on his left arm, it can be seen that it is 6:15 in the morning. The sky is grey. In the background, family houses lining the street can be seen. He puts headphones in his ears while he takes a quick glance towards the grey sky and breathes in deeply. Then he turns his attention to his fitness tracker, which shows “Let’s Go!”. He taps the screen once with his finger, turns right, and starts jogging.

5. FINDINGS

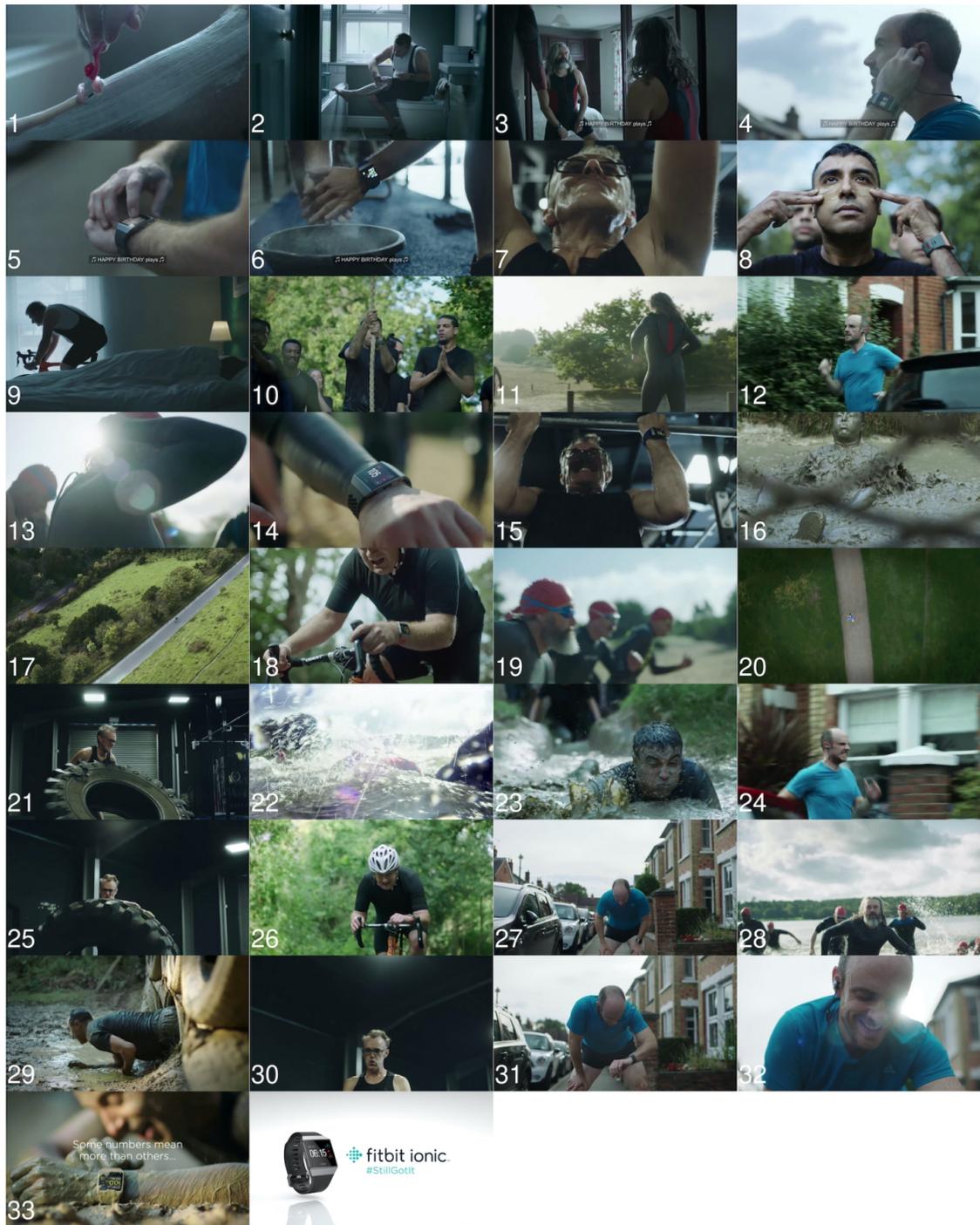


Figure 5.4: Storyboard of the Fitbit commercial without textual comments. Every single image stands representative for one shot. Own illustration based on Fitbit (2017)

(Figure 5.4 images 6 to 7) Another man (protagonist 4), also around 50 years old, is in a gym. He has medium-length thinning hair, wears glasses and a sporty tank top. On the floor is a bucket in which he rubs his hands with chalk. He tries to get rid of excess chalk with a clap in his hands. On his left arm, he wears a fitness tracker. The sweat is in his forehead as he has probably already had a longer workout. Nevertheless, he is now trying to do some pull-ups: He raises his right arm first and holds on to the pull-up bar installed on the ceiling. Then follows his left arm. He takes a deep breath.

(Figure 5.4 image 8) Finally, there is protagonist 5, a man as well, but a little younger than the other protagonists. He has dark black hair, a black training shirt, and a fitness tracker on his left arm. He is outside and the sun is shining. There are other men behind him who look much younger than him. He casts a concentrated glance into the distance while smearing lines of mud under his eyes and cheeks simultaneously with his left and right hand's index and middle finger.

(Figure 5.4 image 9) Protagonist 1 is now in his bedroom, still dressed in his tight sports bodysuit. The light is still a bit dim. A bed can be seen in the foreground, in which his partner is lying, half asleep, pulling the blanket over her head while sighing annoyed. It seems to be early in the morning. The reason for the woman's dissatisfaction is apparent: Protagonist 1 is sitting on his racing cycle home trainer next to the bed and pedals as fast as he can. Even if the noise is not loud, it can still be heard clearly. Moreover, the small bedside lamp next to the bed is lit. All in all, these are not the best conditions to get some sleep in the early morning.

(Figure 5.4 image 10) Now protagonist 5 can be seen standing on an elevation. He holds a rope made of hemp in his hand, which hangs from above. Now it becomes clear where he is. He takes part in a dirt trail race, where several people run through the wilderness with different obstacles on the way and other adverse conditions. Several other men and a woman can be seen in the background, all younger than the protagonist. They watch him with satisfaction and excitement as he starts to swing down from the elevation on the rope. When he feels no more ground under his feet, he distorts his face with strain.

(Figure 5.4 image 11) Now protagonist 2 can be seen, as he is about to put on his wetsuit while walking across the grass towards a beach. He trots after a group of other people who walk towards the beach as well. They are wearing wetsuits, swimming caps, and swimming goggles. It looks like the protagonist wants to participate in a triathlon, especially since he has put on a sports bodysuit, over which he is now wearing the wetsuit. The beach is at a lake. There is a light haze over the landscape, but the sun is shining.

(Figure 5.4 image 12) As we already know from before, protagonist 3 prefers jogging. He can now be seen running along a street of detached houses. He breathes a little harder, but apart from that, there are no signs of exhaustion, even though he runs at a rather fast pace.

(Figure 5.4 images 13 to 14) Protagonist 2 gets ready on the beach. He adjusts his swimming goggles, which he has put on over his red swimming cap. He takes another look at his fitness tracker: he has a heart rate of 105bpm.

(Figure 5.4 image 15) Protagonist 4 is now doing the previously only hinted pull-ups. The sweat drips off his face; his breath seems irregular. Almost with his last strength, he pulls himself up on the bar. His fitness tracker shows that he has a heart rate of 134bpm.

(Figure 5.4 image 16) Protagonist 5 has fallen into a deep puddle of mud during his dirt run. The puddle is just deep enough that his whole body, including his head, disappears under the surface. Lying on his back, he quickly straightens up again. His entire body is colored grey by the mud. He snorts while surfacing so that the mud does not enter his mouth.

(Figure 5.4 images 17 to 18) Protagonist 1 has moved away from his dry run at home and climbs a hill with his racing cycle along a serpentine road that winds its way up a hill covered with green meadows and forests. He wears a silver bicycle helmet and a black, tight-fitting shirt over his sports bodysuit. The exertion is evident as he pedals only very slowly. He can hardly keep a straight line with every single pedal stroke. Initially still sitting in the saddle, he realizes that he can only make further progress by pedaling standing.

[External audio from shot 19 to 27: The melody of “Happy Birthday” is played at medium speed with a piano and string instruments.]

(Figure 5.4 image 19) Even for protagonist 2, things are getting busy now. He has put on a red swimming cap and goggles now and is about to sprint from the beach towards the water with his fellow swimmers. He looks just as dynamic as his competitors, who can be considered way younger than him. Cheers can be heard from the background.

(Figure 5.4 image 20) Protagonist 3 continues his run along a path through a park. Meadows line the path, and trees are visible in places.

(Figure 5.4 image 21) Protagonist 4 is now about to do a so-called tire flipping workout in the gym. He tries to lift the tire lying on the floor, which has an estimated diameter of 1.3m - 1.5m. However, he seems to get a problem at halfway. His facial expression seems motivated as he tries to get his body and arms deeper under the tire. An energetic moaning can be heard.

(Figure 5.4 image 22) Protagonist 2 can now be seen swimming dynamically in the lake among his competitors in crawl style.

(Figure 5.4 image 23) Meanwhile, protagonist 5 is just about to crawl through the puddle of mud. He lies on his stomach and moves forward, only using his forearms. As before, he is snorting, probably also out of effort and not to get mud in his mouth. We see some of his dirt run's companions who are just about to start crawling through the dirt in the background.

(Figure 5.4 image 24) Protagonist 3 has now returned to the street with detached family houses and runs along the sidewalk. However, now he has drastically increased his speed. He almost sprints. His face is cramped and looks as if he is already at the end of his rope. Nevertheless, he struggles through and fixes his gaze on a point in the distance.

(Figure 5.4 image 25) Protagonist 4 has now finally managed to lift the tire. He takes a deep breath and gives it the last push with both arms so that it straightens up, then overturns and falls to the ground again. The joy about his achievement can be seen in his face. Laughing proudly, he watches the tire as it falls to the ground.

(Figure 5.4 image 26) Protagonist 1 has now also reached the highest point of the road, which seems to be in a forest. He gives a relieved groan, leans on the handlebars with his forearms and starts to smile. He continues to cycle, but now it seems to be no longer an effort.

(Figure 5.4 image 27) Protagonist 3, too, has now arrived at his previously fixed destination on the street with detached family houses. He brakes abruptly and immediately supports himself with his arms on his thighs. He stares down at the asphalt as he struggles for breath.

[External audio from shot 28 to 32: The melody of ‘Happy Birthday’ is played at medium speed with a piano and string instruments, but louder, more defined and vivid than before.]

(Figure 5.4 image 28) Protagonist 2 runs out of the lake in shallow water. Behind him are 5 of his competitors, who do the same. He has already taken off his swimming goggles. Now he rips his swimming cap off his head. He starts to smile slightly, while he looks visibly exhausted. Nevertheless, he directs his gaze straight ahead, where another task seems to come up to him.

(Figure 5.4 image 29) Protagonist 5 is crawling through a wall of old car tires built in the middle of the muddy path of the dirt track. He seems to have shed his disgust for mud. Instead of snorting, he sticks his tongue out of his mouth and struggles for breath while giving a heavy sigh.

(Figure 5.4 image 30) Once again, protagonist 4 can be seen proudly watching the tire. Smiling, he takes a deep breath.

(Figure 5.4 images 31 to 32) Protagonist 3 is still struggling for air while leaning on his thighs and looks a bit unhappy. He does not seem to feel well after his final spurt. Nevertheless, he takes his left arm off his thighs to have a look at the fitness tracker. Apparently, he sees something there that delights him. His initial agony turns into a broad grin. He is satisfied with his performance.

[External audio from shot 33 to 34: The last note of ‘Happy Birthday’ is played with a piano and string instruments and slowly fades out.]

(Figure 5.4 images 33) Finally, we see protagonist 5 again lying on his stomach in the middle of the mud. His arms and face are full of dirt. Through his fitness tracker’s display, we find out that he covered 10 miles in 3h and 10min and burned 2741cal during his dirt run. While he is lying on the ground, he also starts to smile contentedly. *[Insert: “Some numbers mean more than others”]*

(Figure 5.4 image 34) *[The Fitbit Ionic is shown on a white background. It reads: “Nov 28”; “06:15”; “fitbit”. There are three icons on the right side of the screen: Two blue*

footprints surrounded by an almost closed blue circle; a red heart surrounded by a red quarter circle; an orange-colored flame in surrounded by an almost closed orange circle. Next to it, the Fitbit logo and a text is slowly faded in: "fitbit ionic"; "#StillGotIt"]

Connotative Summary

On the Narrative Structure

In essence, the commercial tells five different individual stories of middle-aged men, each of whom is involved in sports in their own way: Protagonist 1 rides a racing bicycle; protagonist 2 is a triathlete; protagonist 3 goes jogging; protagonist 4 trains in the gym; protagonist 5 takes part in dirt trail running. The individual stories were cut together as a parallel montage. This means that not every single story is told in one piece, but as alternating sequences between the plot lines and thus quasi-synchronously. The clip is 45 seconds long, of which only 40 seconds are used for narration. The remaining 5 seconds are dedicated to the last sequence in which the product is presented, including some textual inserts. It is quite remarkable that five storylines can be presented in such a short time. The consequences of this narrative density are many, very short scenes (sometimes consisting of a single shot only), which were cut together in the parallel montage into one whole. However, as already explained at the beginning of this analysis, examining single shots or scenes is not very enlightening in this particular case. Similarly, an examination of the individual storylines as a whole would not be very illuminating. It is precisely this kind of montage that is decisive for the meanings of the clip and, consequently, for the meanings of the tracking technology advertised. Each of the protagonists goes through the same phases in the course of their sporting activities on their own, but in doing so, they individually tell a part of the entire story and thus act symbolically for a single fictional subject. In the context of advertising, this single fictional subject can be seen in the recipient, who is supposed to find himself in the narration.

This overall narrative can be divided into five different phases. Phase 1 (shot 1 to shot 8) is the preparation: Shave your legs, adjust your suit, check the weather, start the fitness tracker, lime your hands, hands-on on the sports equipment and apply eye black under your eyes to avoid glare. All these activities serve as preparation and can also refer to the same storyline on a more symbolic level: Prepare the body for the activity, put on sportswear, check environmental factors, start tracking the activities, make small preparations for handling the sports equipment, feel and test the sports equipment, adjust some preparations according to the conditions perceived by the previous activities.

In phase 2 (shot 9 to shot 14), the focus is on slowly starting the actual sporting activity: dry training on the bicycle; swinging down on a rope as the first hurdle in the dirt run; running to the start of the triathlon and warming up a bit; light jogging at the beginning of the run; adjusting the sportswear; checking the fitness tracker. Even if the chronology here is not as clear as in phase 1 with regard to the narration of the actions of a single fictitious subject, the core meaning of a rather loose entry phase into the sporting activity

is present everywhere. It is about warming up the body to get it used to the upcoming demands and readjusting the equipment along the lines of the experienced real conditions.

In phase 3 (shot 14 to shot 20), the actual sporting activity is now moved into the center: pull-ups in the gym; falling into a puddle of mud in a dirt run; riding uphill on a racing bicycle; throw yourself into the waves in a triathlon; running in the park. Symbolically, it all stands for the actual act of doing sport and the usual experiences made in doing so. Uphill and downhill rides, setbacks, phases of increased exertion, and getting the body used to these circumstances.

Phase 4 (shot 20 to shot 26) represents the phase of the greatest effort towards the end of the sporting activity and at the same time the overcoming of the own performance limits: flipping an oversized tire in the gym and lifting it with one's last ounce of strength; swimming as fast as possible to keep up with much younger opponents; crawling energetically through the mud; sprinting despite fatigue; reaching the highest point of one's bike tour with the last bit of energy. So this phase stands for bundling all the remaining reserves once again to reach a goal, despite previous physical exertion and signs of fatigue and exhaustion.

Phase 5 (shots 25 to 33; shots 25 and 26 represent the transition from phase 4 to phase 5 within their narrative) depicts the end of athletic activity. In the advertising clip, however, this goes beyond the simple stopping of the activity. All protagonists were able to reach their own performance peaks or set goals: To have overcome the last ascent by bike, to have found out after jogging that you could beat your time, to be ahead of your younger competitors in the triathlon after swimming, to have given the tyre a final push with satisfaction and to have watched it fall over and in the dirt race just to have reached the finish line, albeit completely exhausted and covered in mud from top to bottom. This experience brings a smile of satisfaction to each of the athletes.

It turns out, the clip tells the stories *of* five different characters and, at the same time, one single story told *by* five different characters. With regard to the importance of self-tracking technologies, this circumstance alone can first of all be interpreted to mean that the advertised fitness tracker is universally applicable in sports and can withstand different conditions. This insight is not very enlightening with regard to the research questions. However, by understanding the clip as a holistic narrative, far more interesting meanings can be extracted, as discussed below.

Age Is Not an Obstacle

Probably the most striking feature of the advertising film, which is presumably recognizable at first glance, is the age of the protagonists. It is scattered around 50 +/-10 years. This observation initially triggers a connotative contrast: sport and fitness are generally strongly connoted with youthful performance. Of course, this break with the connotation has been chosen deliberately. The idea of youthful performance is transferred to a higher age and thus creates the picture that even in old age, there is a general physical performance potential that can be activated with the appropriate methods. Interestingly, however, is that age is discussed as a threat and is thus negatively connoted. This

circumstance is underlined with the help of the musical background. The selection of the song »Happy Birthday« initially establishes a clear relation to the age of the protagonists. The further we progress in the different phases within the video clip, the more »vivid« the song's melody becomes, which is initially accompanied only by piano later, then also by string instruments. In the beginning, the melody is slow, ponderous, irregular, and can be described connotatively as sad and disillusioned. The further the protagonists get closer to phase 5 within their sporting activities, the more vividly voluminous and connotatively happy the piece becomes. This is combined with the final writing in shot 33: "*Some numbers mean more than others*". So once again, a direct reference to age is made, whereby the statement "*Some numbers*" refers to those of the fitness tracker, and the statement "*others*" refers to the age of the protagonists.

The fitness tracker is therefore presented as a means to activate dormant potential, making people forget their age and, in sum, minimizing the worries of getting older. Age is addressed as a deficient and threatening condition that can be overcome with the help of technology, thus guaranteeing a happier life in old age. This message is underlined once again in the last shot 34 by explicitly emphasizing the reference to youthful performance with the text "*#StillGotIt*".

Exploring and Transgressing the Own Limits

One of the central messages in the advertising video is to explore, determine, and exceed one's limits. So when this structure mentioned above of a fictitious individual protagonist is consulted, the story describes precisely this goal. The fact that the clip is not only about doing sport for joy and fitness but also about methodically topping performances can be observed retrospectively at the very beginning of the clip. The shots of phase 1 (shot 1 to shot 8) show the protagonists during their preparations. The interesting thing about it is the professionalism in dilettantism depicted in it. The protagonists' actions are strikingly reminiscent of those of professional athletes, such as shaving the legs of professional cyclists to increase the aerodynamics of the body or the use of lime in sports where the hands need a better grip. At the same time, these actions are placed in a dilettante context, e.g., by juxtaposing the professionalism of shaving the legs to improve aerodynamics with a corpulent man sitting on the toilet, or more generally by contrasting the professional preparations with the higher age of the protagonists. This contrast communicates that the characters are amateurs, but their actions are professional. Even if the physical capacities may not be there (anymore), it is still possible to get out a little more speed, grip, or endurance to ultimately exceed one's limits. The fitness tracker can then be interpreted as being part of these professional measures within the dilettantism. Simultaneously, it is the measuring instrument that defines the limits and brings the effect of professionalism to light in an evident way.

Feedback and Self-Esteem

This function of »bringing things to light« is the subject of the above-described phase 5. Here especially the shots 27, 32, and 33 are dealing with the role of technology in this process. Protagonist 3 runs along the sidewalk of a street and makes a final sprint,

whereby he already fixes a specific goal with his eyes. Once there, he first bends down and can only keep himself on his feet by resting his arms on his thighs. In shots 27 and 23, it can be seen that he has overstrained his body and that he does not seem to feel well. However, this depiction of a completely exhausted man changes as soon as he takes a look at his fitness tracker. We do not get to know what exactly is shown to him. However, it fills him with joy and seems to make up for the invested effort.

The other protagonists also experience this feeling of joy and satisfaction, with different forms of feedback being responsible for this. In the case of protagonist 1, reaching the highest point of his cycling tour triggers feelings of happiness and relief. Protagonist 2 reaches the beach before his much younger opponents in the triathlon, which brings him a light smile. Protagonist 4 gets the feedback from the overturning tire, which he alone was able to flip. Lastly, protagonist 5 reaches the goal of the dirt run, which elicits a satisfied sigh from him, maybe also because of the tracked numbers, which are presented to the viewers in the respective shot. All these forms of feedback trigger the same reactions: happiness, satisfaction, relief, and finally, as the message, increased self-esteem. This self-esteem is evoked by some sort of tangible evidence in each case. In the narration, the fitness tracker is placed alongside other forms of evidently perceptible feedback and is thus thematized connotatively with increased self-esteem.

The Comparison With the Others...

Closely linked to the feedback mentioned above is the question of its points of reference. Feedback here is not only attributed to the outcome of action but also to human subjects as objects of comparison. This aspect becomes particularly evident in the storyline of protagonist 2, who not only competes with his own performances during the triathlon but also with other people who are obviously younger than himself. A similar circumstance appears in the storyline of the protagonist 5, where a direct comparison of his performance with those of other people participating in the race occurs. However, this comparison is not depicted as explicitly as in the case of protagonist 2, where shots 11, 19, 22, and 28 are of particular interest. In shot 11, we see him running after his opponents in the dilettante style, as mentioned before. He is just putting on his wetsuit, while the others are already at the start in full gear, including swimming cap and goggles. In shots 19 and 22, we see him keeping up with his opponents at the start and in the water. He gets the feedback about his performance and the gratification via self-esteem in shot 28, in which he is the first to leave the water before everyone else.

... and the Comparison With Oneself

In addition to the comparison with other subjects, especially in the stories of protagonists 1, 3, and 4, the Self is taken as the object of comparison. Tracking technology plays the central role here, especially since it provides the only point of reference for comparison when doing sports alone. What is interesting, however, is the analogy created by the parallel montage. On the one hand, the athletes are able to outdo themselves in terms of beating their own performance, as shown in the narration of protagonist 3. At the same time, it is addressed that the self-referential outperforming is also advantageous in

direct competition with others. It should never be forgotten that the primary goal is to promote fitness tracker. The fact that e.g., protagonist 2 arrives at the beach before his younger opponents is connotatively attributed in its causality to the fitness tracker, which in itself, however, only allows the comparison of own performances. Moreover, the parallel montage places the comparison with oneself and the comparison with others in the same interpretation scheme. The outdoing of one's own performance peaks is also associated with the outdoing of others' performances in direct competitive situations.

5.2 Horizontal Analysis

The following section aims to link the outcomes of the in-depth analysis of the individual advertising video to the theoretical framework developed throughout the analysis and presented in chapter 3. On the one hand, the intention here is to examine the individual connotative interpretations of the advertising clips in the light of existing theories and diagnoses of (late-)modernity. On the other hand, it aims to demystify the naturalness of specific facts as described by Barthes (1957/1991, p. 143) by referring to their historically conditioned and thus cultural backgrounds. In the process, however, the investigation will not start from the individual advertising clips as before but will take the different dimensions according to Van der Loo and Van Reijen (1990/1992) as a structural starting point.

5.2.1 Differentiation

With regard to differentiation and stratification, it can be seen that both the horizontal stratification of lifestyle groups and the vertical stratification are thematically addressed in the advertising clips. Particularly noteworthy are the advertising clips of Samsung and Garmin in this context. In the Samsung advertising, a woman is seen stepping from one lifestyle group into the next, where she seems to be able to move flexibly in each respective role in an almost ideal way. The technology is functionally integrated into each of these roles, thus creating the promise that the tracker will allow the user to easily integrate into their chosen lifestyle groups and take up the normative and role-specific behavior expected there. In this respect, the technology thus promises to facilitate what Bublitz (2015, p. 54) calls *Normalization I*, i.e., the connectivity to lifestyles and milieus.

Similar can be observed in the Garmin advertisement, which also refers to the protagonist's different lifestyles and milieus, but thematically focuses more on vertical mobility. The protagonist of the Garmin advertising represents a successful, goal-oriented personality as well as a respected member of society who is admired in his workplace and can afford to live in a villa with a pool. The tracking technology is charged with the promise of achieving status or at least maintaining it. Symbolically, we also see that he is about to climb the hierarchy even further, just as the protagonist in the Samsung clip is symbolically climbing the career ladder.

A similar pattern can be seen in the Apple advertising. Even though the protagonist's

vertical status is not addressed in this clip, he works on the essential prerequisites of his social advancement by experiencing the metamorphosis from a lazy »couch potato« to a fit, dynamic and successful person who sets goals, achieves them methodically, and grows beyond them. The protagonists of the Samsung, Garmin, and Apple advertisements have in common that they exemplify the ideal type of the entrepmployee elaborated by (Voß & Pongratz, 1998). They work entirely independently to increase their performance potential or at least to keep it at a certain level. The Samsung clip also explicitly shows how the young woman organizes her everyday work with the fitness tracker's help. None of the protagonists seems to be under external disciplining control mechanisms that tell them how to manage, increase, or spend their labor power and performance potential. Especially in the case of the protagonist in the Apple clip, the idea of increasing performance seems to be an entirely voluntary one. Hence, we see the internalized control (Deleuze, 1992) of one's actions realized in these clips.

However, as the clips also show, this internalized control is externalized using tracking technology. Thereby, they operate according to an implicit or explicit disciplinary principle, as described by Foucault (1975/1995). For example, we see in the Apple advertisement that the protagonist is instructed by the tracker to stand up from the couch chair. The protagonist in the Samsung clip is told that she has now taken 10000 steps and receives a virtual »achievement«. Such explicit instructions, but also the tracking of the steps alone, unfold an imperative power. In the first case, it is even explicitly formulated. In the second case, it unfolds on the one hand through the realization and numerical explication of one's own actions as well as playful rewards such as »achievements« on the other. Thus, self-tracking technology allows users to outsource the internalized control they are expected to exercise over themselves.

Through such »achievements«, which are by no means only to be found at Samsung, de facto proto-normalistic orientation of action is offered, which can then unfold through the use of tracking technology. Simultaneously, self-tracking can be interpreted as a technology of permanent social comparison (Spren, 2015, p. 113), and this even in many ways. First of all, the self-tracking technology provides the means for self-comparison. This is the central narrative in Apple advertising, for example. In the Garmin advertisement, we also see how one of the protagonists can outdo his own performance, but can only perceive and realize his achievement through the smartwatch's comparative function. Beyond this purely self-referential comparison, we see in the advertising clips of Apple, Garmin, and Fitbit that the actions mediated through the self-tracking technologies are also placed in relation to other individuals or their performances. In the Apple clip, for example, the protagonist is given a role model function, and it is symbolically depicted that he is leading a young man by example. The work colleagues of the protagonist of the Garmin clip look up to him with admiration. In the Fitbit clip, two of the protagonists are in direct competition with others in their sporting activities. Simultaneously, many fitness trackers offer the possibility to share »achievements«, results, GPS tracks of run routes, and similar via social media channels, making those achievements and actions accessible to a broader audience. It can be provisionally stated that tracking technologies are

comparative technologies that enable individuals to compare themselves with themselves and others. In this respect, it can be interpreted as a technology that enables, if not reinforces, *Normalization II* (Bublitz, 2015, p. 54), i.e., normalized behavior through all-encompassing comparison with others. It reinforces *Normalization II* insofar as its functionality is practically oriented towards the comparison of actions and lifestyles.

5.2.2 Individualization

In view of the late modern situational identity attested by Rosa (2015, pp. 363-364) and the underlying loss of time-stable and authentic identity mechanisms, the advertisements suggest that this problem can be solved with the help of self-tracking. This can be illustrated most vividly with the Samsung advertisement. As explained earlier, the protagonist swims from one lifestyle to the next within the clip, fulfilling each role expected from her in a seemingly ideal fashion. In addition to the promise of connectivity through Normalization I with the help of self-tracking technology, it also conveys that the protagonist was able to form an authentic Self in each of the different contexts. She is portrayed as an authentic sportswoman, authentic employee, and authentic private person. Through facial expressions and gestures, the viewer can see that she takes on a unique role in each of these contexts, which is sometimes incompatible with the other contexts. However, she can fulfill each of the role-specific demands in the sense of authenticity and can change them context-specifically if necessary.

Self-thematization (Burkart, 2006) plays a central role in each of the advertising clips. This can be seen most clearly in the Apple advertising. In it, the protagonist can transform from a rather sad and resigned-looking personality into a fit and confident one by reflexive comparison with his past egos. The Fitbit advertisement shows how the protagonists create self-esteem through the numbers of the self-trackers and thus – as the slogan states – give them more importance than their own age. What is interesting here is that Burkart's (2006) observation of a shift from primarily externally-guided to self-guided self-thematization techniques on the one hand, and a shift from primarily moral and cognitive-rational reflection to an expressive and performance-oriented reflection on the other hand, becomes quite evident in self-tracking. When the protagonist of the Apple advertising clip realizes his personality transformation through his smartwatch, this happens without other subjects' help. He succeeds in this by only relying on performance-oriented numbers about the Self, and he focuses on his body as an outwardly expressive object.

As an interim conclusion, it can be stated that the promise of self-tracking technologies in the context of the modernity dimension of individualization is to provide a counterstrategy to the crisis of the late modern identity. In doing so, it presents itself as an independently accomplishable, performance-oriented, and expressive form of self-thematization. What is striking now is the extent to which the depiction of the individuals acting in the advertising clips coincides with the ideal type of late modern autonomous subject developed by Straub (2019). Perhaps the most prominent example is the staging of the protagonist of the Garmin advertisement. In addition to performance orientation

(“*Beat Yesterday*”) and body fixation (building up his own body), the protagonist acts according to the egocentric concept of autonomy (he acts against all others) and does not allow himself to be restricted by external conditions (rain does not stop him from his plans). The protagonist from the Samsung advertisement also tries to “*run [her] life exactly how [she] choose*” via the fitness tracker and is thereby thematized as an isolated subject acting against all other individuals she encounters. Similar can be seen in the Apple clip, in which the protagonist no longer shows »false consideration« for others at the crosswalk and takes the right to which he is entitled. In both of these cases, too, self-reflection occurs through performance and body-relatedness. Autonomous is their self-thematization insofar as it is underpinned by the idea of autonomy in the sense of a detachment from all social bonds but also realized through the fitness tracker as an external medium of self-reflection. This circumstance becomes particularly evident in the narrator’s text of the Samsung advertisement: “[The Samsung Gear fit is] *Pushing you to go faster, telling you when to speed up and when your goal has been reached. And run your life exactly how you choose*”. The promise here is that the fitness tracker enables the users to realize autonomy through external guidance.

The thesis that self-tracking represents a means self-optimization Spreen (2015, 113-115) can be derived at least implicitly from all of the analyzed advertising clips. However, none of them discusses this topic as centrally as the Apple advertising, since here, the transformation of the protagonist into an active and performative character is the key narrative. With reference to the theoretical corpus, the valuation of »bad«, »good«, and »better« character traits occurring therein can be explained. This valuation’s ideological basis is formed by the competition-based regulatory system (Dörre, 2012, pp. 51-64) and the resulting tendency of the emergence of an active society (Lessenich, 2012, pp. 153-167) and its subject-related ideal type of the entreployee (Voß & Pongratz, 1998). As I have tried to outline in the theory section, the primacy of financial economics throughout the last decades has led to a new form of labor-organizational control, which is primarily oriented on performance and goals, in contrast to the prior Fordist control based on market demands and means of production. Dörre (2012, pp. 63-64) sees the result of this process in the emergence of a competition-based regulatory system. Both institutions and individuals are exposed to the all-embracing principle of competition. For example, in the Samsung or Garmin clip, this competition is symbolically expressed by people going in opposite directions. The competition principle finds its expression in the activation of individuals who have to take care of their security and status within the competition. Performance is the essential category by which the individuals are measured – also in the private sphere. In the light of this theoretical conception, it becomes clear why in the Apple advertising clip, the character sitting on the couch connoted as being »bad«, the active character throwing himself into the waves as »good«. In a society that sees the activation of potentials as a central value-adding moment of individual action, there is no room for non-performative action – so the message advocated by the advertising. Even older generations are not excluded from this activation principle, as the Fitbit clip shows. What is particularly striking about this interpretative linking of Dörre’s observations with those of the present study is the analogy of the methods of finance-dominated forms

of control and self-tracking based optimization. The idea of setting goals in advance and adapting the methods to achieve them is one of the central motives in Apple, Fitbit, and Samsung advertising. I will come back to this point in the following discussion about rationalization and self-tracking.

The Apple clip also makes it clear that there are no limits to the increase in performance. The technology enables performative enhancement of certain routines on the one hand and opens up new perspectives next to existing ones on the other hand. Thus the technology promises not only to handle things more efficiently through its use but also to be able to do more things at the same time. A similar promise is also made in the Garmin clip. Since “*today only comes*” ones, it is necessary to use the given time as good as possible. With Rosa (2015, pp. 113-124), these meanings can be understood as an expression of an accelerated modernity, in which it becomes necessary for the individual to do more and more things in less and less time. Through this lens, the Garmin Clip’s protagonist’s self-chosen pace of action of 70bpm, instead of the standardized 60bpm, can also be understood. With the smartwatch’s help, the protagonist is able to compress his clocking and do things faster than usual¹. Therefore, in a single day, he is able to do yoga, jog, work, play golf, go jogging again in the mountains, enjoy the panorama and go to a private event in the evening.

In the previously mentioned narrator text in the Samsung clip, the statement “*Run your life exactly how you choose*” also unfolds the promise of escaping the contingency of late modern life (Rosa, 2015, pp. 362- 364). This theme is also taken up in the Apple clip, where explicit reference is made to how technology can reduce contingency in everyday life. By referring to past developments and present status quo, it is possible to generate future perspectives by following the trajectory. The promise even goes so far that even the fall into the unknown, symbolized by the sea, can be deliberately ventured with the tracker’s help. The Garmin clip also refers to the uncertainty of one’s actions with regard to future perspectives. The protagonist hits several golf balls directly into an approaching waft of mist, thus not being able to see where his efforts are leading. Nevertheless, he is presented in a sovereign and goal-oriented manner as he watches his ball fly into uncertainty.

5.2.3 Domestication

As discussed earlier, tracking technologies unfold an imperative power on individual action. From a domestication perspective, this could be interpreted as a form of self-discipline to keep the own pleasure principle in check (Van der Loo & Van Reijen, 1990/1992, pp. 228-234). So when the smartwatch instructs to stand up or discreetly points out that one is “*behind target pace*”, this is a friendly reminder to adapt one’s actions to meet the civilizational demands placed on the late modern subject. As discussed earlier, in the

¹The advertising clip of the related product Garmin Fenix 5S, which would have fitted into the sampling scheme as well, but was not analyzed in this work, becomes even more explicit in this respect. The narrator’s text is as follows: “*There are limits to what you can achieve in a single day. Then again, maybe there aren’t*”

case of late modern societies of the global North, a central civilizational demand is the activation of the own performance potentials.

References to the estrangement of the world's experience and one's own body can also be identified in the clips. On the one hand, the form of representation in the Garmin clip can be interpreted as an estrangement between protagonists and the outside world. Following Rosa's (2018, p. 316) definition of estrangement as a hostile and repulsive experience of the world, the protagonist perceives his environment as cold, dark, and threatening. Likewise, and this is possibly more interesting for this analysis, the material also refers to estrangement experiences of one's own body. This reference becomes quite explicit at the beginning of the Samsung advertisement. The statement, "*Is your body telling you something, or is it your Samsung Gear Fit?*" questions the own ability to comprehend one's own body and its functions. The body is presented as a foreign objectivity (Horkheimer & Adorno, 1944/2002, p. 6), which indeed can be fathomed partially through perception, but cannot be fully grasped through it. At the same time, an ideational separation between Body and Self (Liebsch, 2017) is emphasized. According to this idea, the foreign objectivity body emits signals that can either be sensually perceived or, even better, measured by technology and subsequently interpreted by the Self. Based on these interpretations, the Self can shape the body according to normative-aesthetic ideals. This intended shaping of the body is indicated in the Garmin clip, through the equation of the jogging protagonist with a construction site. The protagonist shapes his body according to his will and is inspired by signals captured by the fitness tracker. Even in the Fitbit advertising clip, indications for just such estrangement experiences can be found. In this clip, the jogger receives the gratification of his sporting activities in form of happiness only when he takes a look at his fitness tracker. His body experience is mediated by the fitness tracker and does not run directly through sensory perception. The technology promises to mediate between Self and body.

The Garmin clip shows an interesting analogy at the very beginning, which I previously referred to as »the self-determined, machine-clocked human being«. The protagonist is equated with a metronome through paradigmatic replacement. This staging can be interpreted as a reflex of the experience of the own outdatedness, as described by Anders (1956/1988, pp. 31-41). In order to function in the cultural machinery, which places a multitude of and, at the same time, ever-increasing demands on the subject, it is necessary to adjust to the machine's clocking. The goal is to overcome the perceived deficits resulting from the comparison of the cultural achievements with oneself. The protagonist is portrayed as a human engineer who explores and successively exceeds his performance peaks by using self-tracking technologies as prosthesis.

The thematization of alleged deficits becomes quite explicit in the Fitbit advertising. In it, the higher age is consciously taken up as a central narrative, and the domestication of the allegedly deficient body is staged. Although, or perhaps because Anders' studies on the outdated human being must be understood in the context of industrialization, it is remarkable how much his discussion on the human engineer reflects the content and staging of this advertising. The shame of age leads the protagonists to adapt their

abilities to the cultural requirements with ever more advanced and sophisticated methods. These cultural requirements were previously outlined by Denninger et al. (2014, pp. 180-190) study of the dispositifs of old age. According to this study, higher age groups in late modern society would also undergo a gradual activation. From the dispositif of the *retired age*, to the *restless age* and finally the *productive age*, even older people are now becoming part of the activated society. Upon reaching retirement age, they have not yet fulfilled their service to society. Thus, the protagonists of the advertising clip try to meet the demands placed on them through self-tracking technologies as prostheses and other measures, which I previously described as »professional dilettantism«. Thus they act like human engineers described by Anders (1956/1988, p. 37).

From these observations, it can ultimately be concluded that self-tracking technologies are presented as domestication tools in the advertisements. With their help, behavior can be controlled through disciplinary measures and thus overcome the own pleasure principle. On the other hand, it is presented as a means to potentiate the own limited capabilities, enabling the individual to meet the demands of a culturalized world.

5.2.4 Rationalization

The interpretation of the advertising clips, its signs(-systems), and connotations in the light of rationalization as one of the four dimensions of modernization turned out to be quite difficult at first. This difficulty emerges because rationalization as a cultural practice seems to appear all over the clips, but at the same time, is only latently apparent therein. Ultimately, however, it is probably precisely this point that makes one of the most significant mythical/ideological aspects of self-tracking appear. As the analysis so far has shown, a number of promises of use-value are taken up in the advertisements. However, when it comes to explaining how self-tracking technologies intend to fulfill these promises, the advertising clips remain vague and provide little clues. Before I continue with this point, I would like to discuss all those phenomena within the commercials that are indeed related to late modern ideas of the principle of rationalization.

By looking at the schematization of action assessments according to its value, purpose, and means (Weber, 1921/1988b, pp. 565-567), it can be concluded that self-tracking technologies are primarily discussed as a methodological instrument and thus as a tool to optimize means. They are intended to provide the acting subjects with methodical support for achieving different purposes, as is evident from the previous analysis. This narrative is articulated quite clearly in Samsung advertising, as the technology would tell “[...] *you when to speed up and when your goal has been reached*”. In the Apple advertising, too, the technology presents itself as an effective means to an end, and a similar connotation was previously worked out for Fitbit advertising. Interestingly, these goals are propagated in the advertising clips as being individually selectable and thus conveying freedom and self-determination. De facto, it turns out that these goals are reduced to the same core in each advertising: Namely to potentiate the own performance. This observation seems not surprising under Van der Loo and Van Reijen’s (1990/1992, pp. 145-147) identified urge for rational life planning in late modern times, as well as under

the diagnosis of the rational-choice theory as a reflex of the late modern performance society (Rosa et al., 2018, pp. 261). In this performance-oriented society, efficiency is a guarantor for increasing other resources. This, in turn, makes it possible to live a less troublesome and compulsive life and ultimately leads to more freedom of action.

The attractiveness of self-tracking can probably only be explained by its auratic promise of objectivity and means-end-centric goal setting and fulfillment. Precisely because the technology ties in with the late modern narrative of number-based objectivity and implements the cultural primacy of numbers (Mau, 2017, pp. 10-40), it qualifies as a proven means to lead a rationalized way of life. After all, self-tracking technologies do nothing else on a purely functional level: they collect measurement data and return it as feedback to the users either in raw form, as processed statistics, or as instructions for action. The fact that individuals fall back on such rationalization strategies can be explained with Habermas (1981/1988, pp. 229-293) and Houben (2018, 213-214) on the colonization of the lifeworld by rationalization practices. In analogy to Schaupp's (2016, pp. 82-83) observations, the previously elaborated interpretations of the advertisements suggest that the ideal type of the *entreplooyee* (Voß & Pongratz, 1998) constitutes the connecting link between institutional and individual rationalization practices. The late modern subjects, asked to reproduce, organize and use their labor power in a self-sufficient and purposeful way, use institutional practices of rationalization to maximize their benefit as described by the basic assumptions of the rational-choice-theory (Rosa et al., 2018, pp. 248-250). In this way, the idea of number-driven instrumental rationalization can spread to and unfold in the lifeworld. It is particularly striking how much self-tracking corresponds to the practice of capital market-based management described by Dörre (2012, pp. 55-62). In both self-tracking and capital-market oriented management, activation works by setting targets that determine the amount of effort spent. In both cases, control is based on scores (e.g., calories burned) and benchmarks (e.g., 10000 steps). This observation further supports the thesis of the adoption of institutional practices in the lifeworld in the sense of colonization theory.

The advertisements also appeal to the hope of finding out where one stands, how one has developed, where one can develop, and how one can achieve this, through comparison made possible by quantification. As discussed above, this promise is made in the Apple clip. Even the Garmin advertising provides clues to this meaning of self-tracking. The protagonist is climbing a hill and gets an overview of everything above and below him to find out where he is at the moment and where his journey may lead him. The generated numbers would offer a lifestyle-independent constant for self-thematization and thus for identity construction. Rosa's (2018, pp. 37-47) interpretation of the confusion between the »good« life and its preconditions can also provide a clue to the attractiveness of self-tracking. The quantified achievements are interpreted as indicators of a successful life, although they ultimately only represent a resource potential. The presentation of an increased self-esteem caused by one's achievements in the Fitbit clip can be interpreted in this direction. The protagonists assure themselves through their datafied achievements that their lives are »good«. The depictions of a technologically mediated feeling of

happiness are coupled with the slogan “*some numbers mean more than others*”, whereby the numbers measured by the fitness tracker are attributed significance for one’s way of life, status and self-esteem. Likewise, the valuation-system hinted at in the Apple clip can be interpreted in this way, as it equates a performance-oriented lifestyle with a »good« lifestyle that can be expressed through numbers. These observations are in line with Mau’s (2017, pp- 16-17) thesis that quantifications related to people and things are not only neutral representations of social reality but generate new forms of social valuation. Via Noji and Vormbusch (2018, pp. 28-29) it can be explained why the quantification of actions and bodily functions can be interpreted as a counter-strategy to the contingency experience of the own way of life. The trajectories of individual actions and body characteristics, represented by statistics, create the impression of a coherent continuum of developments and allow the imagination of potential futures.

The central ideological aspect to which I referred at the beginning can be seen in the fact that the advertising clips address a whole range of late-modern pathologies, but that the proposed solution using self-tracking technologies ultimately refers solely to the idea of number-based and rationalized performance optimization. Some of the phenomena and promises can indeed be interpreted more granularly with the help of existing research findings. However, the question must ultimately be asked how the recipients interpret what they see. Considering this aspect, it must ultimately be stated that the self-tracking technologies advertised are presented as a jack-of-all-trades. When it comes to the question of how technology can provide this universal relief for the pathologies mentioned, only its rational and objective numerical character is pointed out. Entirely in the sense of an ancient myth, the self-tracking technology eludes any claim to justify its promises. Thus, they can ultimately be interpreted as a manifest form of instrumental reason as described by Horkheimer (1947/2007, pp. 16-72). Their value is generated solely through their methodical rationality and the resulting increase in performance. Apart from that, and just like an ancient myth, the self-tracking technology eludes any claim to justify its promises. Its technological rationalization, the reference to numbers, and the promise of increased performance are presented as a silver bullet to cope with the late modern problems of life.

Discussion

As the presentation of the results of the conducted study as well as the developed theory corpus show, self-tracking can be illuminated from various perspectives. With reference to the different development lines of the human project modernity, the phenomenon can be read and interpreted in different ways. However, as explained in section 3.1, the perspectives developed by Van der Loo and Van Reijen (1990/1992) are merely a dimensioning of that very modernity and its emergence. Thus, each dimension refers only to a shift of emphasis in the way modernity and its phenomena are viewed. Hence, ultimately the question arises as to how the results presented can be conceptualized into a more holistic picture. In order to achieve this, I would first like to take up the leading research questions again:

Which role do digital self-tracking technologies play for everyday life in late modernity?

- *What hegemonic meanings and ideologies are entwined around the practice of digital self-tracking?*
- *How do these meanings and ideologies relate to the socio-technical and socio-economic context in which digital self-tracking takes place?*
- *To which problems does the use of self-tracking technologies seem to offer a solution and why?*

To answer these questions, and given the results of the analysis, it makes sense first to discuss the problems taken up in the last sub-question. Which problems does self-tracking address? As the analysis of commercials has shown, the promises of self-tracking point to a number of late modern pathologies. Late modern societies are structurally characterized by horizontal and vertical stratification. One of the main questions that this stratification raises for the late modern subject is how to deal with the manifold

forms of norms and roles to which it is exposed in the course of the rapid changes between horizontal lifestyle groups. The second big question is how identity can be established as something context-independent and authentic, i.e., not role-specific, despite partially contradictory demands in different life contexts. At the same time, we see the emergence of a competition-based regulatory regime on a vertical level, in which individuals are hostile to one another in their struggle for personal resources and status. On the one hand, this competitive thinking finds its breeding ground in the economy in form of a finance-dominated accumulation regime, which leads to a flexibilization and precarization of the wage labor market. On the other hand, the late modern activation state provides less and less existential security. Individual performance capacity thus becomes a reassurance with regard to the promise of a »good« and »successful« life.

Hand in hand with these tendencies, it is evident that the logic of the finance-dominated accumulation regime is linked to profound changes in the organization of labor. In the societies of the global North, these changes are reflected in a tendency to flexibilization. The Fordist control of the labor power based on current market requirements and limited by the means of production is replaced by a future and goal-oriented form of control. Goals and deadlines thus determine the expenditure of labor power. The late modern employee is mostly free to choose the methods and working hours as long as the goal is reached at the defined deadline. This tendency becomes noticeable at the structural level, i.e., concerning social power structures, with a change from the primacy of external discipline to a primacy of internalized control. Thus, the late modern employee becomes an entrepreneur, a manager of their labor power, its reproduction, and its expenditure.

The fixation on individual performance combined with the dominance of structural self-control leads to a logic of increase and optimization. Whereas in the Fordist production regime, individual performance was normatively oriented to the framework conditions imposed by institutions (place of work and working hours), in late modernity, this normative function is provided by permanent social comparison with others. However, since individuals compete with one another, this norm does not remain static, but is continually evolving »upwards«. This means that each individual orients oneself to others' achievements and performances and tries to outbid them according to the principle of competition. This ultimately also raises the expectations placed on each individual. It is also evident that the dissolution of traditional biographical paths and the resulting freedom (or obligation) of choice, combined with the loss of existential security, makes late modern life subject to a permanent suspicion of contingency. Where exactly the journey will lead can no longer be determined in advance.

Simultaneously, modernization is also linked to a differentiation between nature and culture, whereby the complete socialization of the natural is becoming increasingly apparent in late modernity. In this process, the cultural generates demands to which the individual must subordinate itself in order to remain connectable. In the course of late-modern competitive thinking, even the biological body becomes an object of deliberate adjustment. The enhancement and optimization logic of permanent social comparison in the context of the primacy of internalized control implies the requirement

of a successive exceeding of one's own performance peaks. But this is also accompanied by an experience of alienation from one's own body, which reveals itself to the individual as foreign objectivity.

As the empirical study results show, the analyzed advertisements address these problem areas and pathologies of late modern life and portray self-tracking as a strategy to counteract these problems. The promises are as diverse as the problems themselves. The technology would enable us to easily move from one lifestyle group to another without losing the authenticity of the perceived Self. They would allow the user a seamless and partially automatic vertical advancement. By using them, it seems possible to establish oneself in the competition on the wage labor market and, at the same time, to gain and maintain autonomy. By linking the past with the present, it would help better plan one's future and methodically achieve one's goals. It would facilitate the everyday organizational life of the employee and create self-esteem by allowing individuals to compare their current performance with their past performances or with those of others. Further, the own performance peak could be pushed to ever new heights through the use of self-tracking technologies. The latter, even to such an extent that the users are able to manage their everyday life with mechanical precision and make the best possible use of what is considered to be limited time.

Despite these implied functions of self-tracking for late modern ways of life, the advertising videos do not provide a concrete answer to how exactly self-tracking technologies can solve the problems addressed. For what they promise through the staged lifestyles of the protagonists depicted in the advertising videos is nothing less than the »good« life. If one searches explicitly for the answer to this question in the advertisements, they merely refer to the rationalizing character that one's actions, bodily functions, and everyday life are captured in supposedly objectifying numbers and can be returned either in raw form, as statistics or instructions for action as feedback. The central ideological core of self-tracking can be found precisely in this circumstance. Due to individualization, the loss of traditional and stable blueprints of lifestyles as well as the compulsion of efficiency emanating from the *active society*, it seems all the more necessary in the late modernity to rationally weigh up decisions and to rationalize and optimize chains of actions. Means-end-rationality thus turns into cultural value. Self-tracking technologies tie in with this idea and promise to make the demanded rationalization implementable by referencing to their objectification achieved through numbers. This reference alone seems sufficient to generate enough appeal, especially since rationalization is also propagated in other social spheres such as economy or bureaucracy as a silver bullet of success. In this respect, self-tracking can be interpreted as an expression of an instrumental reason in which the goal remains abstract and unreflected, and its value is derived solely from the precision of the methodological approach.

Thus, with regard to the initial question about the role of self-tracking technologies for everyday life in late modernity, it can be stated that they are rationalization tools for one's own way of life. Their central goal is to increase the performance of the subjects who use them so that they are able to navigate and assert themselves in a – as illustrated

in one of the advertisements analyzed – threatening and demanding late modern world. Similarly, with regard to the initial question, one of the central findings of this work can be seen in the fact that the question of the role of self-tracking in late modernity may be asked insufficiently. As the analysis and the elaboration of the theoretical framework have shown, self-tracking technologies do not just appear out of the blue in late modernity. Thus, the research question would have to be complemented with: “[...] *and what role does the everyday life of late modernity play in self-tracking technology?*” The analysis has shown that self-tracking as a practice and the everyday life of late modernity do not simply coincide. As a cultural practice, self-tracking represents the culmination point of structural, cultural, individual, nature-relational, and technological developments. It has a certain genealogy and emerged from past and present cultural, social, and economic developments. In return, as can be deduced from the experience of other technological artifacts, it will change culture, society, and economy in one way or another.

The multi-perspective approach to analysis applied in this study has proven fruitful, as it encourages different perspectives on the same phenomenon. In this way, central tendencies connected with the cultural practice of self-tracking could be broadly grasped and placed in relation to one another. However, it also turned out that – due to limited resources concerning the reasonable amount of work for a master thesis – not every single perspective could be captured and analyzed in full depth. The further the analysis progressed, the more complex the addressed object of research proved to be. Each of the perspectives taken on the phenomenon of self-tracking could be broken down in a more refined and granular analytical way, thus providing the basis for separate studies. Nevertheless, the results of this thesis provide a framework for further investigating self-tracking as a late-modern phenomenon.

6.1 Quality Criteria

After Lincoln and Guba (1985, pp. 289-301), the main quality criteria of qualitative research are seen in its *credibility*, *transferability*, *dependability*, and *confirmability*. In sum, these categories reflect the *trustworthiness* of a study. In the following, I would like to discuss each of these points and show how the present study’s trustworthiness is obtained.

Credibility (Lincoln & Guba, 1985, pp. 294-296) can be described as the degree of confidence that can be placed in the results of the study. To put it in the words of positivist ontologies, credibility represents the »truth value« behind the results. Due to the study’s constructivist nature, this »truth value« emerges from the overlap between the individual’s social realities and the results. One of the central measures to attain this study’s credibility lies in the choice of empirical research objects. As described in section 4.1, advertisements must take up preexisting wishes and needs in order to achieve the desired effect. In this way, they establish a link between social reality and the advertised product. Simultaneously, only TV commercials were sampled, as these are less target-group specific and are intended to appeal to a broader consumer base

(see section 4.2). At the same time, as described in section 4.2, an attempt was made to create diversity within the sampled advertisements by varying certain characteristics. This sampling was meant to ensure that the analysis material covered a broad spectrum of users and, therefore, individual realities. Finally, an attempt was made to support the results by the parallel development of an interpretative theory corpus consisting of established and approved diagnoses of late modernity (see chapter 3). Thus, the credibility of the results is also based on the chosen hermeneutic approach. Theoretical basis and empirical findings were developed mutually and reflexively in order to view the specific in the light of the general and, at the same time, to enrich the general with the specific.

Transferability (Lincoln & Guba, 1985, pp. 296-98) can be compared with the *external validity* criteria of the positivistic paradigm, but differs from it in one essential respect. Transferability is not about the generalizability of results, but to what extent they can be applied to other contexts. The researchers themselves cannot answer this question because they do not know the context in which the results shall be applied. Due to the complexity and contingency of social dynamics, it is almost impossible to draw conclusions from one context to another. It can well be assumed that the results obtained here can be applied to similar contexts. However, this then requires the argumentative reasoning of those who want to apply them there. A well-founded evidence for the transferability of results in other contexts can ultimately only be provided empirically. In other words, whether results are applicable in another context must be decided by those who want to apply them there. In this respect, it is all the more important to describe the original context from which the results were derived and under which perspectives and assumptions they were generated. For this reason, the introduction outlines both the temporal and geographical context (see section 1.4), as well as the epistemological and paradigmatic framing (see section 1.2) under which the results were obtained. These measures are meant to enable third parties to investigate the transferability of the results to other contexts and under different perspectives.

I will discuss the confirmability and dependability of the study in one, since the measures chosen to achieve them are identical. *Confirmability* (Lincoln & Guba, 1985, pp. 299-300) describes the degree to which the generated results can be considered as neutral. Lincoln and Guba (1985, p. 300) explicitly oppose the concept of objectivity here, since it does not exist from a constructivist perspective in the sense of a strict separation between the research object and the researching subject. Neutral is what can be confirmed intersubjectively under disclosed circumstances. The quality criterion *dependability* (Lincoln & Guba, 1985, pp. 298-99) refers to the stability and consistency of the results. It raises the question of the diligence and stringency of the inquiry process. Dependability is comparable to reliability in quantitative research. However, even in this case, it represents something different than in the positivist sense. The latter assumes that findings are reliable if under the same conditions and using the same method, the same results are achieved. However, since under a constructivist perspective, the results also reflect the researchers who generated them to a certain extent, dependability describes

how well the results' genesis is comprehensible to third parties. In order to achieve confirmability and dependability in the present study, the introduction describes my perspectives on the field of research (see section 1.2), the context, and my role as a researcher (see section 1.4). Besides, all decisions made in the course of the research project were explained and justified to the best of my knowledge. This concerns especially the choice of the empirical object of investigation (see introducing words of chapter 4), the sampling (see section 4.2) as well as the chosen method of analysis, its theoretical background (see section 4.3), and its conduct (see section 4.4). These measures should ensure that the origin of the results can be traced (reliability) and finally confirmed (confirmability) by subjecting their developmental trajectory to critical examination.

Conclusion

This thesis initially posed the question of the backgrounds of digitally mediated self-tracking in relation to its socio-cultural context in the late modern, western-influenced societies of the global North. Based on personal observations that led to the assumption that self-tracking devices such as fitness trackers or smartwatches are much more than just sporting gimmicks, the question was raised about the related technologies' role in terms of their meaning for everyday life. From the methodological standpoint of symbolic interactionism after Blumer (1986, p. 2), such meanings of things do not arise in a vacuum but are negotiated through interaction with the things themselves and the social discourse around them. According to Barthes (1957/1991, p. 113) (and Gonsalves, 2010, p. 46), meanings of things and circumstances can be brought into a three-tiered system of ordering. The first order is denotations, which in essence, describe what the thing or circumstance appears to be independent of context. The second order refers to connotations that give things or circumstances particular meanings in a particular cultural and application-specific context. Ultimately, things or circumstances on a third order also have a mythical/ideological meaning. Connotations emerge from this third order but are at the same time naturalized by it. Naturalization means in this context that connotations are no longer perceived as historically and culturally conditioned, but as the essence of things or circumstances themselves because their idea-historical background remains unquestioned. Taking these two theoretical points of view into account, it was found that a deeper understanding of the role and meaning of digital self-tracking can only be achieved by looking at the developmental strands of the socio-cultural status quo in order to grasp both its connotations and its ideological background in their entirety.

By reviewing existing literature that similarly addresses the phenomenon of self-tracking, it was concluded that the meaning of self-tracking could be examined from different perspectives: from a perspective of socio-structural characteristics; from the perspective of subject-specific action; from the perspective of the relationship between humans and nature; and from a perspective that focuses on dominant cultural practices. For Van der

Loo and Van Reijen (1990/1992), these four perspectives represent the four constitutive developmental strands of modernity, each of which they characterize more precisely: Socio-structurally, modernity is characterized by the differentiation of functional spheres and the stratification of society. From the perspective of individual action, modernity is characterized by the individualization of possibilities for action. The relationship between human and nature can be described as a process of domestication of the natural in the sense of appropriation and transformation of nature according to cultural values and requirements. Concerning dominant cultural practices, modernity is characterized above all by rationalizing processes and the way of life. Due to the observed analogy between the investigative approaches to the causes and meanings of self-tracking appearing in the literature and the dimensioning of the modernization process described by Van der Loo and Van Reijen (1990/1992), the decision was made to examine self-tracking from the perspectives of differentiation, individualization, domestication, and rationalization.

In order to be able to work out the second-order and third-order meanings of self-tracking, empirical material was needed that abstracts from individual attributions and places the focus on the public discourse around the technologies in question. Such material was found in TV commercials of fitness trackers and smartphones. The material was analyzed using a method proposed by Gallagher (2012), which seeks to combine Barthes' (1964/1986) and Metz's (1971/1991) semiotics in order to identify denotative, connotative, and ideological messages in moving images. The four dimensions according Van der Loo and Van Reijen (1990/1992) served as analytical lenses to investigate the video material. Simultaneously, the outcomes of the analysis served as a basis to enrich each of the four perspectives theoretically with regard to the phenomenon of self-tracking. Thus, in a mutually hermeneutic process, the material was analyzed and, simultaneously, a theoretical corpus was developed with the help of which the content staged in the videos could be interpreted in the context of the late modern societies of the global North.

As Haug (2017, pp. 24-39) described, advertisements do not only represent arbitrarily staged fictions, but are directly related to the wishes, hopes, and needs of the recipients through the promises articulated in them. Thus, the meanings addressed in the commercials can also be used to draw conclusions about social realities related to self-tracking. Viewing the phenomenon from four different angles proved to be a fruitful approach, as it allows a multitude of facets to be discovered. However, since it is only a matter of changing perspectives on one and the same subject, an attempt was ultimately made to transfer the insights gained from the different perspectives into a holistic interpretation of the late modern self-tracking phenomenon. From this interpretation, the following theses were derived, which can be seen as the primary outcomes of the present study¹:

- On a subject-related level of action, late modernity generates a number of pathologies that can be roughly summarized as the loss of a constant normative frame of orientation of one's actions, the difficulty of forming an authentic identity, the

¹I take the liberty to refer to concepts here without describing them in detail. See chapter 3, section 5.1, section 5.2, and especially chapter 6 for a clearer understanding of the following.

compulsion to perform in a competitive active society, the experience of alienation from inner and outer nature, the loss of continuity in one's life course and the subsequent uncertainty of one's own life planning.

- Parallel and reciprocally to these pathologies, dominant cultural practices emerged in late modernity that can be summarized as the primacy of internalized self-control and discipline of individuals, quantification-based forms of economic and bureaucratic governance, performance-oriented and expressive forms of self-thematization, and the dominance of instrumental reason.
- Self-tracking technologies promise to cushion the impact of pathologies on everyday life by generating abstract, cross-contextual, and manifest feedback about the past and the present, making the Self and the body objects of feedback in form of figures and thus making them perceptible in relation to others and their own modifications over time, as well as making possible futures imaginable. At the same time, they promise to drive personal performance to ever new heights.
- Their appeal is based on their general compatibility with the dominant cultural practices mentioned above and the adoption of their rationalization methods in the sense of a colonization of the lifeworld as described by Habermas (1981/1988, pp. 229-293) and Houben (2018, pp. 213-214).
- In this view, however, self-tracking technologies turn out to be technologies of instrumental reason, since – at least in the advertising clips – the hoped-for cushioning of the pathologies' effects is ultimately only explained by an increase in the effectiveness and performance of its users.

7.1 Limitations and Future Work

A study with actual users of self-tracking technologies could be carried out to determine and strengthen the *trustworthiness* of the results. Here the question arises as to how far the inclusion of users – in whatever form – allows a closer look at the meanings of second and third orders as described by Barthes (1957/1991, p. 113) and Gonsalves (2010, p. 46). Theoretically, such a view could be provided through conducting group discussions with subsequent depth-hermeneutic analysis, as described by Leithäuser and Volmerg (1979). By comparing the insights gained here with the findings of a depth-hermeneutic user study, this study's credibility could be deepened. The findings of this study must be understood in the context described in section 1.4. Their transferability could be determined by conducting similarly structured studies in other geographical contexts and by other scientists.

As was noted in chapter 6, this research represents a multi-perspective outline of the problem. The breadth of the approach thus limits the depth of the insights gained. Each of the individual perspectives on the problem could be deepened and refined by conducting independent studies in the same context. For this purpose, the theoretical

7. CONCLUSION

framework developed in this work could serve as a connecting basis, since - as already stated - each perspective is interrelated with the others. Thus, the in-depth analysis could provide more detailed insights into the phenomenon of self-tracking in late modernity from a specific point of view, which in turn can be related to other developmental tendencies via the theoretical framework developed here. In this way, an interpretation of the phenomenon of self-tracking could be developed that is both in-depth and keeps the whole in view. Rosa (2015) also describes that a society's relation to its dominant time structures can be placed next to or as a fundamental basis under the four perspectives of Van der Loo and Van Reijen (1990/1992). Thus the analysis could be extended by including this time relation.

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