



universität
wien

MASTERARBEIT / MASTER'S THESIS

Titel der Masterarbeit / Title of the Master's Thesis

“Human Nutrition – foodways and the explanation of
human behavior”

verfasst von / submitted by

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angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of

Master of Arts (MA)

Wien, 2018 / Vienna 2018

Studienkennzahl lt. Studienblatt / degree
programme code as it appears on the student
record sheet:

A 066 810

Studienrichtung lt. Studienblatt / degree programme
as it appears on the student record sheet:

Masterstudium Kultur- und Sozialanthropologie

Betreut von / Supervisor:

Dr. Helmut LUKAS Univ.-Doz.

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1. Introduction

I want to start my master thesis with the following quote by Eric B. Ross since it explains quite well the focus and structure of my thesis:

Currently, there is intense debate over why some animals are considered edible or inedible or are simply differentially valued as food among various populations. Behind much of the controversy, however, lies a deeper level of disagreement over the nature and intelligibility of cultural phenomena – and consequently, the question of the larger social-political relevance of anthropology (Ross 1980: 181).

While the topic of nutrition, food habits and taboos, lies at the center of my thesis, the theories and concepts connected to it represent specific ways of seeing and conceptualizing humans as part of the universe, of doing research and of explaining human behavior. Two very different philosophies and connected theories about human foodways will be presented and compared.

The study of human behavior has been of interest to a variety of different strategies and philosophies. While not being able to include all of them, I am going to exemplify two main research strategies to the study of human behavior: Humanism and Science.

A vast amount of different humanistic strategies exist that differ in detail (for example Functionalism, Cultural Relativism or Structuralism). To give a more comprehensive overview and not to get lost in these details, I subsume these different strategies within the category of “Humanism”. Scientific strategies about the study of humans exist in fewer variations. Biologist reductions strategies like Socio-Biology are excluded from this thesis because they are not able to explain the variations of human behavior. The reasons for that will be explained later on within this thesis. Cultural Materialism is the other dominant scientific research strategy and the one I chose to exemplify and illustrate the study of humans in a scientific manner with. It explains human behavior primarily with techno-environmental factors.

The philosophies of Humanism and Science go beyond the boundaries of specific disciplines. Nevertheless, as a student of Cultural and Social Anthropology, this discipline will certainly provide quite some of the literature, concepts and theories I will present. At first, all relevant categories, principles and concepts will be defined and explained. Afterwards, I will describe how these are viewed within the realm of the introduced philosophies or strategies of “Humanism” and “Science”.

By examining their basic assumptions and principles, it becomes clear how these strategies approach and view humans, culture, society etc. in relation to the universe and how they assume

to generate insights and produce knowledge about human behavior. Once these different philosophies have been thoroughly introduced, I will show how these assumptions and principles guide specific theories about human foodways (food habits, taboos and activities). While in most cases these concepts and theories differ in research interest, focus, and scale, partially both scientific and humanistic accounts and theories can be found for the very same phenomena. These examples then provide a good starting point for a direct comparison between the two very different philosophies of studying human behavior.

Why is nutrition the aspect of human behavior that I chose to exemplify these research strategies with? First and foremost, nutrition is something that has been of concern to all human individuals and human societies since the very beginning of the history of humankind. As everyone knows, the activities and habits relating to food and hunger are wildly differing between past and modern societies, as well as between different regions and places. Why is it that most Americans love beef but would not consider eating insects or dogs? Why do some societies have dietary habits that exclude almost all kinds of meats? Why are pigs tabooed in one place, and not in another?

Until the most recent times, all existing societies dealt with the question of how to feed themselves. The daily lives of people revolved around the quest for food. Nowadays the situation is more complex. The production and the consumption of food are increasingly separated. Today, in percentage, there are less people involved in producing food than for the most time of our existence as a species. On the other hand, never have there been more mouths to feed. Hunger and eating are constants throughout time and space. Food habits and taboos are not; they are variables that are dependent on where one looks, or which region or time is of interest.

By looking at specific examples like the “cow taboo” in India or the avoidance of pigs in the Middle East, I can show whether humanist or scientific theories about these phenomena offer better and more satisfying explanations about them. Concluding my evaluations, I want to go a step further and discuss the implications for the study of humans and human societies.

Finally, I am going to argue why and how the scientific strategy, which is the most successful strategy when it comes to inorganic or organic matter, also works best when it comes to the study of human behavior. It will be argued that human behavior can, similarly to plants, animals and rocks, be studied in a nomothetical rather than idiographic quest, and generalized laws about human behavior are not only a possibility (which is argued against by Humanists) but should also be our main concern. I will argue that the scientific strategy provides the best toolkit

to gain the highest probability in producing objective knowledge about cause and effect of human behavior.

2. Philosophy of Humanism & Science

Introducing the philosophies of the strategies of science and humanism is necessary before explaining connected theories and practical examples about nutrition. The two major research strategies relevant in my master thesis are contradictory in a lot of ways:

In the humanistic vision, the goal of anthropology is the understanding of people's lives, their social life, and their culture, an understanding which requires an empathetic grasp of the point of view of the people studied. Thus the anthropologist provides a qualitative account of the cultural 'web of meaning' shaping the society and the lives of its members. Such an account is thought to reflect the researcher as well as those studied, the description being one of many possible interpretations. The work of anthropology is likened, in this vision, to history and to literature, emphasizing the particular and the idiographic (Salzman 2004: 366).

Supporters of the scientific strategy have different aspirations and claims when doing research:

In the scientific vision, the goal of anthropology is the discovery of descriptive generalizations and explanatory laws about the way society and culture work which can account for the commonalities and variations among societies and their trajectories over time (ibid.).

These are generalized descriptions of these very different visions that were developed over time and can differ in detail depending on what specific researcher or strategy one is considering.

When it comes to the study and research of human behavior, every strategy comes with a specific set of principles and assumptions that "govern the conduct of research" (Harris 1994: 63). Not every researcher deals with this topic and explicitly follows a specific research strategy. Nevertheless, research principles and certain assumptions about human behavior and scientific criteria are inherent in every theory or study, whether the researcher is aware of it or not. These different principles lie at the core of every research and theory. The principles and assumptions are applied when doing research, are sometimes guiding the whole process. "Principles fall into two classes: rules for acquiring, testing and validating knowledge (i.e. epistemological principles) and rules for generating and evaluating theories (i.e., theoretical principles)" (Harris 1994: 63).

In the following chapter, I am introducing four research principles, as well as other categories and assumptions that are relevant to the comparison of Humanism and Science. Before I can explain the specific sets of principles and assumptions these strategies are built upon, there is the need to define those categories first.

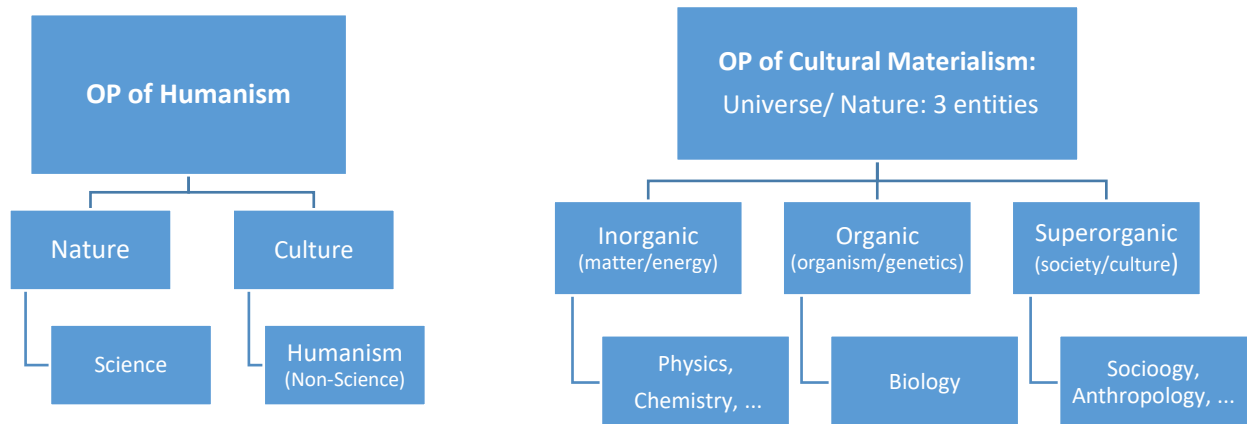
Ontological Principle (OP)

The Ontological Principle deals with the nature of being and the general structures of reality. Every research strategy has certain assumptions about a variety of entities, be it objects,

properties or processes (see URL 3). What is human? What is culture? What is society? How is reality constructed? By answering these questions and defining the understanding of the object, one can figure out the OP of specific strategies: “The ontological assumptions adopted will determine whether social reality is seen to be essentially the same as natural reality or fundamentally different” (Blaikie 2004b: 820).

It is necessary to deal with these questions when trying to understand or explain complex systems. This has implications for the other principles listed further below. Ontological distinctions have been a crucial topic of thousands of debates. Across various disciplines and times, researchers have argued about humans and their place in the universe.

The ontological principles of Science view human behavior determined by matter and laws, while the ontological principles of Humanism see matter as expression of human ideas and thoughts. Humanists are known for the famous distinction of nature and culture, viewing their own field of “culture” being separated of nature. Cultural Materialists view the universe organized in three distinct entities, which are all seen as part of nature (inorganic – organic – superorganic). All this is exemplified in the graphics below and further elaborated in the respective chapters.



Epistemological Principle (EP)

The Epistemological Principle is very essential for this thesis, because it lies at the center of differentiation between Humanist and Science research strategies, and “at the heart of paradigmatic conflicts in all disciplines” (Lett 1997: 22).

Blaikie refers to epistemology as the “theory of knowledge” (Blaikie 2004a: 309). The EP introduces assumptions of how humans can grasp the world and produce knowledge about it and everything in it:

Epistemology provides a philosophical grounding for establishing what kinds of knowledge are possible and for deciding how knowledge can be judged as being both adequate and legitimate. In the social sciences, the term is used in the context of deciding which scientific procedures produce reliable social scientific knowledge (Blaikie 2004a: 309).

The *etic* perspective is connected to questions of causality and the interest lies in explaining human behavior. The *emic* perspective leads to findings about the motives and opinions of humans. In that case the research interest lies rather in describing human phenomena, rather than explaining them. When I compare scientific and humanist strategies, their respective epistemological principles are “Science” and “Humanism”.

Objectivity

“Objectivity” is a central concept when it comes to the epistemology of science, and it has been argued about for centuries up until today (see Blaikie 2004b). According to Lett, objectivity is an “ideal (...), that is never fully realized (...), but it is an extremely valuable heuristic device nonetheless” (Lett 1997: 30).

Questions about objectivity play a crucial role in research, especially when it comes to the study of humans, because in this case humans represent both the researcher and the researched (in contrast to the study of animals and plants). Scientific strategies usually follow a positivist rule, where objectivity plays a major factor: “In positivism, being objective means keeping facts and values separate, that is, not allowing the researcher’s values and prejudices to contaminate the data” (Blaikie 2004b: 818).

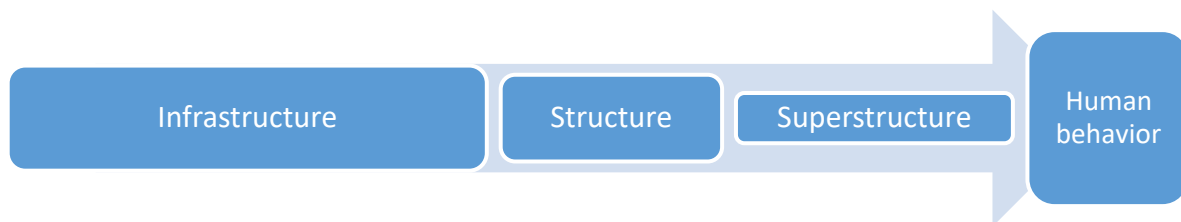
Many early humanists would agree with science scholars that an objective reality exists. Unlike scientists, humanists developed the opinion over the course of the 20th century that objectivity is an unattainable goal when it comes to the study of human behavior. In more recent humanist strategies like Interpretative Anthropology, and especially in connection with the postmodern turn, the category of “objectivity” became entirely obsolete. Its counterpart, “subjectivity”, is not avoided, but even emphasized (ibid.).

Theoretical Principle (TP)

The theoretical principles formulate something about how human phenomena are dealt with in specific strategies, how they try to explain human behavior. These explanations can be of different kinds, for example about the causality of phenomena (science) or about reason and motives (humanism) (see Blaikie 2004b: 817).

The two main theoretical principles relevant in this thesis can be summarized as “Materialism” and “Idealism”. These can be further particularized in the context of the specific strategy. Cultural Materialism uses the principle of Infrastructural determinism to explain human behavior. Many humanists use “Psychological determinism” as an idealist theoretical principle to explain human behavior. They explain cultural and social phenomena in psychological terms. Other humanist strategies are, as mentioned, not even trying to explain, but only to describe human and social behavior.

The following graphic uses Cultural Materialist termini but can be used to exemplify both Cultural Materialist as well as Humanist theoretical principles. While scientific strategies would include and emphasize the first two categories (infrastructure and structure) in the determination of human behavior, humanist strategies exclude the first two categories and only view the third one (superstructure) as influencing human behavior.



Methodological Principle (MP)

The methodological principles are connected with the other principles mentioned above. Methodological Individualism, for example, assumes the individual to be an absolute entity, and society can be seen as the sum of its individual people (see URL 4). It follows that by looking and researching individual motives and behavior, one can build theories about the whole society, “culture” or socio-cultural phenomena. Many humanist researchers are in favor of Methodological Individualism, but certain humanist researchers or paradigms also support Methodological Holism. Scientists like Cultural Materialists always support Methodological Holism, while other scientists, for example socio-biologists, are supporters of Methodological Individualism. Methodological Holism assumes society to be a distinct entity that is more than the sum of its individual parts (see URL 5). This view can be explained through a phenomenon of emergence. The Stanford Encyclopedia of Philosophy defines this phenomenon as follows: “Emergent entities (properties or substances) ‘arise’ out of more fundamental entities and yet are ‘novel’ or ‘irreducible’ with respect to them” (URL 6). Society emerges out of the sum of individual humans but gains a distinct quality. Therefore, socio-cultural phenomena do not have to be explained in individual terms (psychologically or biologically), but in societal terms.

Eriksen refers to the argument about individual or collective/holistic accounts on human behavior as “chicken-and-egg kind of problem” (Eriksen 2010: 92). While his follow-up

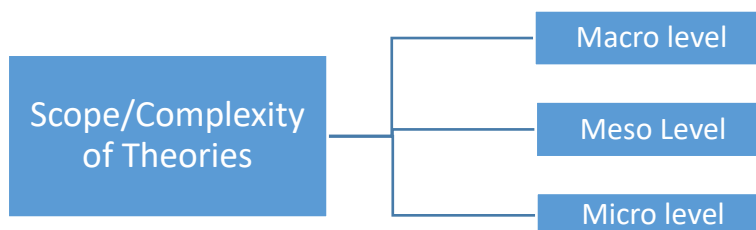
statements share his personal rather humanist view, the quote implies the central problem: Are individuals primarily determining society, or is society primarily determining individuals?

Theory

Now that the four main research principles have been defined, it needs to be added that all of these principles (for example theoretical principles like “natural selection” or “infrastructural determinism”) do not have the “status of a scientific theory” (Harris 1994: 63). When these principles are applied to research and when data is analyzed, theories are being produced. While the principles themselves cannot be falsified, theories can be.

Theory is a concept and term that has been used in vast variations in science and humanities and therefore needs further clarification. I want to focus on the distinction of macro, meso and micro theories, a distinction that also can be misunderstood since there are two different major understandings:

The terms ‘macro,’ ‘micro,’ and (sometimes) ‘meso’ make it easy to conflate complexity with scale—that is, spatial size or extension in time. But scale and complexity are analytically independent dimensions. In social science one might refer to the ‘collective level’ (for example, the polity) of, say, families—a fairly ‘micro’ unit in scalar terms. One might also refer to a ‘micro-level’ (perhaps specific commodity chains) of the world system, a ‘macro’ scalar unit (Jepperson/ Meyer 2011: 60).



In Science, macro level theories with highest degree of complexity are aspired. They usually are not bound to a specific region or timeframe and they are therefore supposed to be valid in every society at every time. In the humanist strategy, these kinds of (universal) theories are frowned upon since the beginning of the 20th century. Humanist research and theories tend to locate themselves in terms of complexity on the meso or micro level and are usually also bound to a specific time and place.

The strategies of “Science” and “Humanism”, which are built on the principles just introduced, can be compared and evaluated from two different perspectives. Firstly, “their logical structure and internal coherence” and secondly, “their respective abilities to produce scientific theories in conformity with the criteria” (Harris 1994: 63) mentioned above.

2.1. Humanism: principles and assumptions

In this chapter, I am taking a closer look at the principles and basic assumptions that most humanist researchers have in common. I will explain how these principles shape the research strategy and its understanding of humans and societies. Historically, a wide range of paradigms emerged in a variety of disciplines that differ in specific focus and ways of doing research and building theories. I am going to focus on what they have in common, rather than what is separating them. While therefore specific paradigms like Cultural Relativism, Functionalism etc. will not play a major role, they have to be mentioned in order to explain what combines and separates them. This thesis does not stop at disciplinary borders of (Cultural) Anthropology but certainly quite a few sources mentioned here originate within this discipline. According to Lett,

Anthropology is a humanistic science in every sense of the term. It is humanistic in the sense that its subject matter involves the whole of human phenomena, and it is humanistic in the sense that its epistemological, ethical, and aesthetic principles are entirely congruent with the philosophy of humanism. Anthropology is also humanistic in the sense that its interest in the cultural expressions of human creativity overlaps with the central focus of the humanities (Lett 1997: 121).

The term “humanistic” has to be explained and defined considering it has different understandings attached to it. One understanding relates to the “humanities”, a “particular set of disciplines, including literature, art, and philosophy, that are devoted to the collection, preservation, analysis, and appreciation of the intellectual achievements of humanity” (Lett 1997: 2). Two other major understandings include: “Most often, however, the term ‘humanistic’ can be understood in one of two ways, in either a *moral-aesthetic* sense or in an *epistemological* sense” (Lett 1997: 3). Relevant for this thesis is “humanistic” in its epistemological sense: “In the epistemological sense of the term, ‘humanistic’ refers to a set of assumptions about the nature and source of knowledge” (ibid.). The epistemology of humanism is explained below, as are other principles of this research strategy.

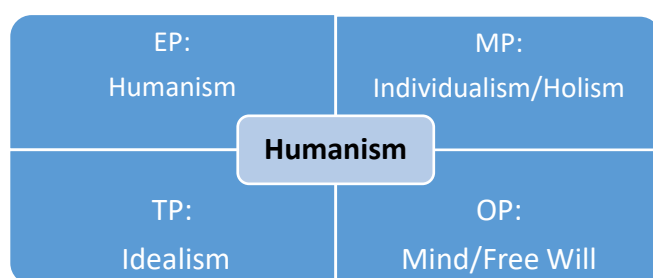
The scientific and humanistic strategies are “fundamentally different” (Lett 1997: 2). While they are not necessarily incompatible, “the problems they specify and the methods they employ to solve those problems are divergent” (ibid.). These differences are also inherent in the existing connotations of the terms “humanistic” and “scientific”:

“The term ‘humanistic’ is often contrasted with the term ‘scientific’ in contexts that suggest that the former includes everything that is playful, colorful, exciting, concrete, particular, personal, and qualitative, while the latter includes everything that is toilsome, mundane, dull, abstract, general, impersonal, and quantitative” (Lett 1997: 3).

In current anthropology, Interpretative Anthropology and postmodernism have succeeded the early humanist strategies, but these newer approaches remain humanistic and argue even more actively against scientific strategies: “Interpretative anthropology is explicitly humanistic in its origins, interests, methods, and goals” (Lett 1997: 5).

The humanistic way of thinking is inherent in the basis of Interpretative Anthropology and can be found in the words of its most prominent founding father, Clifford Geertz: “The analysis of culture”, he declares, is “not an experimental science in search of law but an interpretative one in search of meaning” (Geertz 1973: 5). Because “culture” consists of a “pattern of meaning embodied in symbols” (Geertz 1973: 89), the interpretation of culture entails “the elucidation of its symbolic meaning” via the application of “the ethnographer’s empathy, Verstehen, insight, imagination, understanding, and the like” (Spiro 1992: 128).

The following graphic shows the four main principles of humanist strategies, which are introduced and explained thoroughly below.



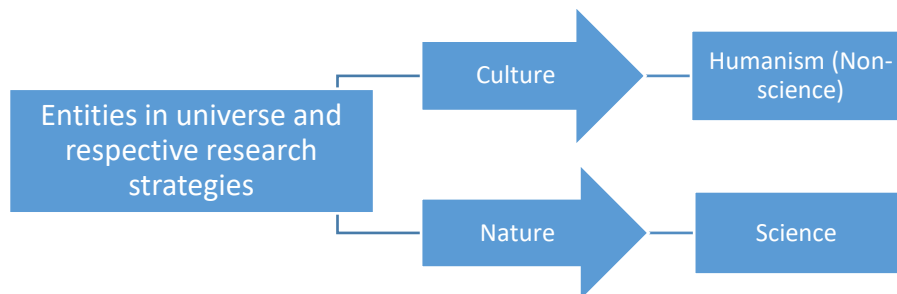
2.1.1. Ontological Principles (OP)

The first principle to be introduced is the ontological principle, because it defines the main assumptions of a specific strategy about how they view the universe and its entities, as well as how they relate to each other. The ontological principles of humanism deal with the questions of how to define Homo sapiens as a species, society, culture etc. in relation to nature. Once questions about the ontology are dealt with, we can derive the epistemology of Humanism right from these assumptions and definitions.

Most scientists and humanists both agree about the “psychic unity of mankind”, ergo that all humans share the same potential in their mental abilities and psychological condition (see Carneiro 2003: 17). There is only one human race, and differences in human behavior and societies cannot be explained by different mental abilities. The differences and similarities have to be explained in other terms, and that is the starting point of disagreement between humanists

and scientists. This point will be discussed later on, when we deal with the epistemological and theoretical principles.

The major ontological distinction that leads the way for humanist researchers is the famous distinction between “culture” and “nature”. Nature is seen as an entity that encompasses all material aspects and objects, for example animals, plants and rocks. All these are supposedly determined by their nature and can be studied and researched best in the proven generalizing, objectivity-seeking scientific way. Humans, on the other hand, supposedly belong to the entity of “culture”, which humanists see as an entity that works apart from external (environment) and internal (biological) determination. This notion has major implications for the epistemological and theoretical principles of Humanism.



This notion is not explicitly mentioned by every humanist researcher, but it is inherent in all of their works. The person who most famously shared his view on this nature/culture distinction is the French anthropologist Claude Lévi-Strauss. He proposed the existence of “only two true models of concrete diversity: one on the plane of nature, namely that of the diversity of species, and the other on the cultural plane provided by the diversity of functions” (Lévi-Strauss 1962: 124). According to him, “the symmetry postulated between nature and culture involves the assimilation of natural species on the cultural plane” (Lévi-Strauss 1962: 124-125). This dichotomy will reoccur when I write about Lévi-Strauss’ “Culinary Triangle” (2008 [1966]). The reason for this notion probably relates to the wide variability between human societies and all the differences that exist in human behavior, whether it relates to dietary rules or social organization. If one focusses on these differences and seemingly irrational behaviors, it seems like humans do in fact not act according to any laws, but arbitrarily.

How is it possible for humans to behave and think without being determined and limited the way plants and animals are in their behavior? This is argued with the unique ability of humankind that we call “mind”. The notion of “mind” is defined differently and sometimes vaguely, depending on the specific humanist strategy or researcher. The assumption that mind is the driving force of human behavior is inherent in all kinds of humanist works and statements,

from Margaret Mead's (1928) to Clifford Geertz's (1995). The concept of "mind" is connected to the notion of a "free will". The following quote by Ruth Benedict, which expresses a stance against the determination of human behavior and for arbitrary human decision-making relating to a "free will", represents these views well:

All cultures, of course, have not shaped their thousand items of behaviour to a balanced and rhythmic pattern. Like certain individuals, certain social orders do not subordinate activities to a ruling motivation. They Scatter. If at one moment they seem to be pursuing certain ends, at another they are off on some tangent apparently inconsistent with all that has gone before, which gives no clue to activity that will come after (Benedict 1960: 196).

While the concept of "mind" lies at the core of humanist strategies, anthropologists certainly focus more on the concepts of "culture" and society. To what degree "culture" is responsible for our behavior and to what degree humans are "free" in this concern, is part of the debate within the humanist realm. A vast amount of varying definitions and notions exist about the concepts of society and culture. While there is no absolute agreement, there is a strong leaning towards a specific notion that contrasts the scientific version proposed by Spencer (see Spencer 1967) in the late 19th century. He conceptualized "society" with the famous analogy of a biological organism, where single organs in a physical body form a new quality that is more than the sum of its individual parts. Exemplary for the contrasting opinion is the following notion presented by Ruth Benedict:

The integration of culture has important sociological consequences and impinges upon several moot questions of sociology and social psychology. The first of these is the controversy over whether or not a society is an organism. Most modern sociologists and social psychologists have argued elaborately that society is not and never can be anything over and above the individual minds that compose it. As part of their exposition they have vigorously attacked the 'group fallacy', the interpretation which, they feel, would make thinking and acting a function of some mythical entity, the group. On the other hand, those who have dealt with diverse cultures, where the material shows plainly enough that all the laws of individual psychology are inadequate to explain the facts, have often expressed themselves in mythical phraseology. Like Durkheim they have cried, 'The individual does not exist', or like Kroeber they have called in a force he calls the superorganic to account for the cultural process" (Benedict 1960: 202).

Benedict's view of society, which is shared by most humanists, views it as nothing more than the sum of its individual minds. This view legitimizes the existence of research principles and methods that differ and even contradict the ones the (natural) sciences introduced since their inception. It implicates that knowledge about society can be gained best by focusing on psychological emic accounts from members of a society. As Benedict mentioned herself, there are exceptions within the humanistic strategy like for example Kroeber (see Kroeber 1948). His view of society resembles the scientific version of society being a separate entity. While both

Kroeber and Benedict supported “cultural relativism”, the different conceptualization of “society” led to different methodological principles.

Now that humanist views about society have been dealt with, I will focus on the concept of “culture”. As mentioned, “culture” is assumed to be in opposition to “nature” by humanist researchers. Any natural laws other beings and objects are subject to, are supposedly not relevant to humans because of their “culture”. This view contrasts scientific perspectives, which see humans as part of, and not oppositional to, nature. In biologist reductionist strategies (see Sahlins 1993) for example, humans are seen as more complex animals and their behavior is therefore entirely based in bio-psychological concepts (like instincts, psychological modules, etc.). “Culture” does not have a place at all in this perspective. The scientific strategy of Cultural Materialism, which is the counterpart to humanist strategies in this thesis, categorizes “culture” as part of “nature”.

The ontological distinction between culture and nature is crucial for Humanism. Bio-psychological factors are often not entirely dismissed as determining factors of human behavior. They are seen as a minor factor existing next to the main factor that is “culture”. It is hardly ever taken into account when doing research, because it is seen as the task of biologists to deal with biological aspects of our species. The central debate about this topic was called the “nature vs. nurture” debate. Most humanist strategies see human behavior as entirely learnt and not as inherent natural behavior.

If we now only consider the aspect of “nurture”, since it is emphasized by humanists, other questions arise. If every individual mind was acting completely freely in his decision-making and behavior, no research would be possible at all. Humanists therefore assume that “culture” to be responsible for conditioning human minds:

We are forced to conclude that the human nature is almost unbelievably malleable, responding accurately and contrastingly to contrasting cultural conditions. The differences between the individuals who are members of different cultures, like the differences between the individuals within a culture, are almost entirely to be laid to the differences in conditioning, especially during early childhood, and the form of this conditioning is culturally determined (Mead 1935: 280-281).

In this view, all members of a society are seen to be conditioned through their own culture and therefore can only be understood in terms of that very culture. This is the premise of the “Cultural Relativist” strategy, which was dominating American anthropology in the first half of the 20th century and speaks out against comparing cultures. In some cases (e.g. Kroeber), the history was emphasized; in other cases, psychological concepts were adopted from the individual sphere and brought to the social or cultural sphere (e.g. Benedict).

The exact ways of how “cultural determination” or psychological factors play a role in human behavior is subject to more narrow discussion within the humanist realm. It depends on the specific researcher’s view to which degree individual minds are accepted to play a role and to be an active agent in the process of cultural determination. In some cases, minds are merely seen as passive recipients of “culture”.

Ruth Benedict’s “Pattern of Culture” (1960) shows, for example, how humanist strategies conceptualize human behavior as entirely “learnt” and socialized behavior (without other more substantial determinants). Margaret Mead, one of the most famous anthropologists and humanists, declared for a variety of social phenomena, from sexual behavior (see Mead 1928) to warfare (see Mead 1990 [1940]), that human behavior is neither a “biological necessity” nor determined by environmental factors, but it is “invented” by the human mind. Since this behavior is learnt and not natural, humans are in control of it and can also deliberately change it.

In French humanist strategies like Structuralism, “mind” plays a central role as well. As it will be seen in my evaluations of Lévi-Strauss’ “culinary triangle” (2008), a universal condition of human mind is ought to determine our thinking, which then supposedly affects our behavior.

Organic and Superorganic Evolution

The humanistic ontological distinction between nature and culture was already introduced. Since biological or organic evolution falls into the category of nature, it is seen as the responsibility of scientists to deal with it. Most humanists do not deny the existence of an organic evolutionary process as famously proposed by Darwin, but it is mostly excluded (like any other biological factors) from their research. According to Mintz, the early humanist Boas was in support of Darwin’s organic evolution but critical of the notion of a socio-cultural or superorganic evolution as proposed by the evolutionists of the 19th century:

Boas had little interest in broad causative generalities about humankind or its history, believing that many detailed ethnographic studies would have to be realized before any evolutionary principles at all could be formulated. He was, moreover, offended by any pseudo-evolutionism that likened human societies to steps, some higher and some lower, on a moral intellectual ladder (...) (Mintz 1987: 12-13).

The notions of a superorganic evolution proposed by the classical evolutionists are more thoroughly explained in the ontology of Science. Boas’ critical stance against it increased over time, and with his followers “began an anti-evolutionary tide that was to sweep over the whole field of anthropology for more than fifty years” (Carneiro 2003: 75)

Harris summarized the positions of both the American and French humanist strategies as steadily moving away from an evolutionary perspective:

both tended to encourage emic approaches on the model of linguistic analysis; and both produced a steady erosion of the strategy which would have sought the lawful principles of sociocultural phenomena in the material conditions of human life (Harris 1968: 465).

In the British humanist anthropological schools of Functionalism and Structural Functionalism, the attitude towards evolution was more ambiguous. Both Malinowski and Radcliffe-Brown stated that they believe the basic assumptions of Evolutionism to be true (see Harris 1968: 553). Nevertheless, evolution did not play a role in either of their strategies:

But the fact remains that, despite their acceptance of more or less well-defined evolutionary stages, neither Malinowski nor Radcliffe-Brown can be credited with contributing to the development of evolutionary theory, except in the negative and critical sense in which the Boasians can also be said to have made such a contribution” (Harris 1968: 553).

To summarize, while organic evolution did not play a role in most humanist strategies, superorganic evolution was only neglected from the early 20th century on: “More and more ethnologists began turning their backs on cultural evolutionism and busying themselves with narrower, more subjective fields of inquiry, such as ‘values’ and ‘meaning’” (Carneiro 2003: 263). Whether it is studying societies in their specific history and particularity, the functions of their institutions or only accrediting behavior with mental accounts, the evolutionary process and general laws have no place in a relative, particular or cognitive understanding of human societies and culture. Nothing has changed about this stance since the emergence of “newer” humanist positions summarized as postmodernism:

There is little question that today those anthropologists by whom evolutionism is most conspicuously ignored, of not derided, are those who are in the passionate embrace of postmodernism” (Carneiro 2003: 265).

2.1.2. Epistemological Principle (EP): Humanism

The epistemological principle of “Humanism” connects a variety of different research strategies that all share this alignment and stand in opposition to various science-oriented research strategies. When comparing Humanism and Science, the epistemology lies in the center of attention. Other principles might differ depending on researcher or specific strategy, but all humanists share the epistemological principle of Humanism.

As the term “Humanism” suggests, the human being lies in the center of attention. As explained, the ontological principle of the humanistic research strategy views humans as a unique entity

apart from nature and natural laws. This has major implications for the epistemology of Humanism:

Humanism has a long tradition in anthropology. Major figures in the discipline, such as Ruth Benedict and Robert Redfield, have argued that as a study of humanity, anthropology must look not only to the physical and natural sciences but also to the humanities to achieve a comprehensive view of humans and their preoccupations” (Richardson 1996: 614).

Within the 20th century, most strategies of the social sciences developed a strong affinity towards the humanities and left behind their early roots in the natural sciences.

In anthropology, this development started with a backlash against the Evolutionist movement of the 19th century. In the United States, this backlash is mostly associated with Franz Boas. In the foreword to Margaret Mead’s “Coming of Age in Samoa” (1928), Franz Boas writes:

However, a systematic description of human activities gives us very little insight into the mental attitudes of the individual. His thought and actions appear merely as expressions of rigidly defined cultural forms. We learn little about his rational thinking, about his friendships and conflicts with his fellowmen. The personal side of the life of the individual is almost eliminated in the systematic presentation of the cultural life of the people (Boas 1928: xxi).

Inherent in this quote is both a stance against scientific generalizations, as well as the importance of the individual human being (in contrast to whole societies). This view is the logical consequence of the notion of the mind and a “free will”. When humans have a “free will”, there is no possibility for researchers to find laws about their behavior.

Robert Lowie, a supporter and successor of Boas, brings anti-scientific and relativist claims to a next level. He criticizes comparative strategies that try to build general laws about our species and claims that human societies do not work according to any laws. When writing about a variety of phenomena that do exist in one place but not in another, he comes to the conclusion that “often it seems to have been caused by an accidental complex of conditions rather than in accordance with some fixed principle” (Lowie 1987: 92).

Congruent with this statement, he concludes by giving a description of how humans and societies should be studied in Anthropology:

A given culture is, in a measure, at least, a unique phenomenon. In so far as this is true it must defy generalized treatment, and the explanation of a cultural phenomenon will consist in referring it back to the particular circumstances that preceded it. In other words, the explanation will consist in a recital of its past history; or, to put it negatively, it cannot involve the assumption of an organic law of cultural evolution that would necessarily produce the observed effect” (ibid.).

Lowie and other early humanists do not see the field of culture as a “region of complete lawlessness” (Lowie 1987: 95). Nevertheless, these laws are not seen as attainable goals to be researched, so the focus and interests in Humanism has shifted. As it follows, in humanist

research strategies comparative, systematic and diachronic studies are therefore rather unpopular. Studies are supposed to be set and understood in a specific time and space, in its own logic and understanding.

The exact views on how much an individual is determined or free in his or her behavior differ in the humanist realm. It is clear, though, that humanists definitely do not see humans strictly determined the way other beings are determined by their biology and environment. Most early humanists agree about the notion that individual humans are socialized by their society or culture, but have more than a word to say about their own development.

This assumption leads to research interests and questions that differ from scientific ones. Not nomothetic questions (cause/effect) and systemic research from the etic perspective are relevant, but the “inside” (or emic) perspective and idiographic questions about motives, etc.

Therefore, the epistemology of humanism is characterized by following aspects:

The epistemological principles of humanism assume that knowledge is unavoidably both subjective and relative, that it is best achieved through a combination of intuitive insight and empathic imagination, and that the relative merit of competing accounts depends upon their inherent persuasiveness. In evaluating the relative persuasiveness of competing claims, humanists consider a variety of variables, including logical consistency, moral authority, rhetorical style, aesthetic appeal, and emotional satisfaction. The goal of humanistic inquiry is to produce contextual interpretations that are illuminating (Lett 1997: 3).

The statements of Clifford Geertz work as a paramount example of the epistemological principle of humanism:

If we want to discover what man amounts to, we can only find it in what men are: and what men are, above all other things, is various. It is in understanding that variousness – its range, its nature, its basis, and its implications – that we shall come to construct a concept of human nature that, more than a statistical shadow and less than a primitivist dream, has both substance and truth (Geertz 1973: 52).

The notion of mind is strongly connected to an individualistic perspective. Ruth Benedict emphasizes this notion as well, emphasizing humanist research interests:

In theoretical discussions of culture, also, generations (sic!) about the integration of culture will be empty in proportion as they are dogmatic and universalized. We need detailed information about contrasting limits of behavior and the motivations that are dynamic in one society and not in another. We do not need a plank of configuration written into the platform of an ethnological school. On the other hand, the contrasted goods which different cultures pursue, the different intentions which are at the basis of their institutions, are essential to the understanding both of different social orders and of individual psychology (Benedict 1960: 201).

Before the theoretical principle of humanistic strategies are examined, the humanist understandings and definitions of scientific categories and criteria need further explanations.

Objectivity

While many criteria originating in natural science were largely dropped in humanist strategies, “objectivity” actually remained an important concept at the beginning of the 20th century. Mintz writes that the founding father of humanist anthropology in the USA, Franz Boas, for example “argued for an objective and value-free approach to the comparative study of all cultures, especially those of technically less advanced peoples” (Mintz 1987: 11).

In humanist research of the 20th century, statements about the criterion of “objectivity” remained vague or relative depending on specific researchers. Humanist strategies like Cultural Relativism and its advocates Mead, Lowie or Benedict did not yet give up the concept of “objectivity”:

When one is mastering the language and all the idiosyncrasies of behaviour of an esoteric culture, preoccupation with its configuration may well be an obstacle to a genuine understanding. The fieldworker must be faithfully objective. He must chronicle all the relevant behaviour, taking care not to select according to any challenging hypothesis the facts that will fit a thesis” (Benedict 1960: 200).

At the same time, these researchers were very critical of other science-related concepts like nomothetic theories, comparisons and general laws. When Harris states that in the first half of the 20th century, American anthropology was identified with a “programmatic avoidance of theoretical syntheses” (see Harris 1968: 250), this statement can also be adopted for British, French and German anthropology of that time.

Over the course of the 20th century, the interest in “objectivity” decreased. Mainstream humanist paradigms of the first half of the century largely merged into interpretative and postmodern research strategies in the late 20th century. The goal of interpretative anthropologists is that “the humanistic approach should be used to pursue the interpretation of cultures” (Lett 1997: 12). In their logic “scientific knowledge of human affairs, which entails the description and explanation of objective fact, is unattainable.” (ibid.) The goal of interpretative humanist approaches is the “evocation and interpretation of cultural variability” (ibid.).

By the end of the century, a general consensus formed in humanist research and it can be described as follows: “meaning is subjective, truth is contextual, knowledge is elusive” (Lett 1997: 12).

Questions about the subjectivity of the researcher and power imbalances towards the researched in the field arised:

Like postmodern ethnographers, postprocessual archeologists draw attention to the imbalances of political power between researchers and the subjects of their research and to the implications that imbalance has for the legitimacy of the researchers' claim to knowledge (Lett 1997: 11).

At the same time, earlier studies were criticized by a number of different groups (feminists, people of color, colonized people, etc.) for being androcentric, ethnocentric (using a western perspective on non-western societies) and having taken advantage of colonial power imbalances. All this led to a couple of "turns" within the humanist strategy and to a change of the whole discipline of anthropology (see Bachmann-Medick 2006). These developments finally led to an even further avoidance of science, positivism and abandonment of connected criteria like objectivity.

Postmodern researchers came to the conclusion that objectivity as such is not a possible goal to be reached, therefore it should not play a role at all and was called out to be obsolete:

No ethnographer could represent all the disparate voices that make up a culture, so every ethnographer or archeologist can never claim to speak with absolute authority about the subject of his or her research (Lett 1997: 12).

What followed was a strategy by many humanist researchers to emphasize multiple realities, subjectivity, reflexive writing etc. Since there is no single reality to be grasped, a researcher can only describe and analyze multiple realities, including his own.

Theories & Generalizing

The humanist strategy is in favor of micro and meso theories, which are bound to a specific time and space. Macro theories, on the other hand, go beyond these criteria. They are supposed to be applicable universally and are not bound to a specific timeframe. Since Cultural Materialism is in favor of these kind of theories, I will focus on them in the respective chapters. Universal macro theories were avoided by humanists since their emergence in the 20th century. When you take a look at one of the most famous early anthropologists, Bronislaw Malinowski, one can see that his studies about the Trobriand Islanders are not supposed to be comparable to other groups or societies (see Malinowski 1985). His research is specifically about these people in the specific time frame he researched them. His functionalist approach even neglects the historical perspective.

In contrast to later humanist research strategies in the first half of the 20th century, the criteria of "theory" were still of relevance to earlier researchers: "For it can never be too often repeated

that in anthropology as elsewhere there can be no empirical observations without the lead of theory” (Malinowski 1932: xi).

The preference meso theories is true for British functionalists like Malinowski, but also for American anthropologists of that time. Cultural relativists like Boas, Mead and Benedict built their theories around their strategy of Historical Particularism. Both “Relativism” and “Particularism” terminologically speak out against “Universalism”. In science (of any kind), macro theories and laws about animal or plant behavior are the norm, and particularism is out of question. Particularizing animal or plant behavior would not have any explanatory value.

Starting from the early 20th century, Humanists started to become critical of generalizing, comparing and building laws about human behavior: “Facile generalizations about the integration of culture are most dangerous in field-work” (Benedict 1960: 200).

Later in humanistic anthropological research, a shift happened towards Interpretative Anthropology, with similar shifts in other disciplines. Theories as introduced at the beginning of this chapter were criticized. This is because even meso theories tend to generalize human phenomena to a degree. Depending on the kind of theory, the level of abstraction is higher or lower. With the postmodern turn, generalizing became a no-go:

Humanistic anthropology in its more extreme postmodern form has no place for information collection that smacks of ‘objectivism’ and ‘positivism’, such as distanced observation, surveys, testing, quantitative data, or any method which makes the people being studied into research objects (Salzman 2004: 366).

Since in postmodern humanist theories not just the position of the researcher and his/her ability to understand a “culture” is in question, but also the assumption of an existing singular reality, theories as such are obsolete in postmodern research.

Some humanist researchers are not just trying to describe phenomena, but also to bring change of some kind:

For example, those committed to proactive, advocacy anthropology, such as some Marxist and feminist anthropologists, take the position that all anthropological accounts are political, implicitly or explicitly supporting either the status quo or some kind of change. In their view, one must pick a conceptual framework and methodology to advance interests of those identified as oppressed” (Salzman 2004: 366-367).

Margaret Mead, for example, wrote in her famous book “Coming of Age in Samoa” (1928) about sexual behavior among adolescents in Samoa, and thereby aspired to bring change to the coming of age of American children. While this is not about advancing interests of an oppressed group, it nevertheless tries to bring change. In this thesis, I will introduce one humanist example

from the discipline of social psychology, a theory about the ideology of meat-eating by Melanie Joy (2011). She not only tries to explain human behavior in relation to food habits, but she also tries to bring change to human foodways and advocate for a specific diet.

Emic/Etic

The terms “emic” and “etic” were first proposed by the linguist Kenneth Pike (Pike 1971) and try to overcome to problems with the terms “objective” and “subjective” in relation to the observer’s and the participant’s point of view. Eriksen describes the two categories as follows:

(...) life as experienced and described by the members of society themselves – is sometimes spoken of as the ‘emic’ level. Its counterpart, the analytical descriptions or explanations of the researcher, is the ‘etic’ level (Eriksen 2010: 40).

“Emics” basically describes the insider’s perspective, the thoughts, information, knowledge, opinions about a researched group of people about themselves, and everything they articulate and think about their behavior. The “etic” perspective (see Harris 1980: 32), on the other hand, does not care about the native’s interpretations, views or categories, but rather deals with scientific and analytical categories, trying to give an account of objective reality.

While the study of animals or plants does only offer an etic perspective, in the research of humans both the emic and etic perspectives are a possibility. In scientific strategies, even for the study of humans, the etic perspective remains the main focus, the emic perspective is nevertheless not excluded (see Harris 1994: 67). While the terms “emic” and “etic” have not existed until the late 1960s, the distinction between the insider’s and the outsider’s analytical perspective have been debated since early ethnology (see Begemann 2016: 14-15). For early ethnologists, the emic perspective was of interest in order to come to analytical (etic) conclusions about societies and their behavior, for example the famous “Kula ring” (see Malinowski 1985 [1922]). This changed over the course of the 20th century, when the emic perspective became the primary goal:

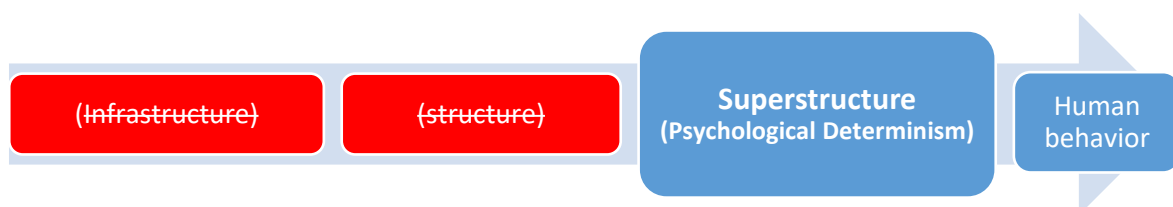
Idealist strategies approach the definition of social and cultural phenomena exclusively from an emic perspective: society exists to the extent that participants view themselves as members of social groups sharing common values and purposes; social action is a special kind of behavior identified by the social intentions of the participant; and culture consist exclusively of the shared emics of thought and behavior (Harris 1980: 46).

The emerging relevance of the emic perspective probably happened in combination with the neglect of scientific and objective criteria, which the etic perspective was connoted with. The increased interest in gaining the emic perspective changed fieldwork. The deeper a researcher

was gaining access to the field and the closer he or she got to the emic perspective, the “better” ethnographies were considered. For many decades, “going native” then was the biggest achievement for a cultural and social anthropologist in his or her fieldwork. This view was criticized later on. The humanist mainstream shifted towards a view that the emic perspective is similar to any objective reality: namely, a goal that cannot be reached by the subjective researcher (see Eriksen 2010: 40). Therefore, it should not be pursued at all. In the newer humanist interpretative and symbolic strategies and with the postmodern turn, any objective categories have been dismissed and subjectivity, as well as particularity, favored: “(...) the emics of behavior are dropped and culture is restricted to rules allegedly guiding behavior without any investigation of the behavior itself” (Harris 1980: 40). This means that emic accounts are still valued in newer humanist strategies, but only if they remain untouched by the researcher, ergo if one lets the native speak for him- or herself.

2.1.3. Theoretical Principle (TP): Idealism

The theoretical principles deal with the question of how human phenomena and behavior is theorized, explained, described, etc. Humanist theoretical principles can generally be summarized as “idealism”. Depending on the specific research strategy, one can specify the theoretical principle that is favored or used. What combines all of these idealist theoretical principles is their negation of material factors in explaining human behavior. Material factors are either accepted but not considered interesting and worthy of examination, or neglected to even exist. Idealism explains human behavior through psychology (mind, thoughts, ideas), or through “culture”, which is often seen as the sum of minds. As stated previously, environmental, technological and material factors are excluded in humanist theoretical principles. In cultural materialist termini, this would include both the “infrastructure” and “structure” of a society. Only the “superstructure” is relevant to idealist researchers. It includes ideologies, religions, morals, norms etc., and understands these as the result of ideas and minds.



Franz Boas, one of the early humanist researchers in anthropology, remains vague about the theoretical principle, but anticipates what is of interests to humanists: “And yet the way in which

the personality reacts to culture is a matter that should concern us deeply and that makes the studies of foreign cultures a fruitful and useful field of research” (Boas 1928: xxii).

Lesser suggests that Boas is responsible for two main theories in anthropology:

the idea that in culture history, culture is the primary determinant, rather than some noncultural independent variable; and the theory of culture in its modern sense, is learned behavior. Both of these are inductive theories, based on the comparison and contrast of human cultures (Lesser 1987: 31).

Generally, it can be said that humanists tend to locate themselves between two poles of strict Cultural Determinism (like Kroeber) and a strong individual and psychological view of humans, ergo a focus on a “free will” (Margaret Mead) (see Silverman 2005: 265-269). Both Mead and Kroeber were famous students and successors of Franz Boas who went different ways, as we can see here. Ruth Benedict (1960), another famous student of Boas, worked, similarly to Mead, with psychological terms, but unlike her, she focused more on “culture” instead of individuals. Humanists do not agree with scientists in their preferences for causal explanations including external (infrastructural, economic, etc.) or internal (biological instincts, etc.) determining factors on human behavior. They nevertheless often use explanations of Social or Psychological Determinism (“patterns of culture”) that exists next to the notion of a “free will”.

Since there are various numbers of specific idealist theoretical principles, I cannot introduce all of them. To exemplify an idealist theoretical principle, I will go into detail about Mead’s and Benedict’s ways of explaining human behavior and cultures:

Influenced by Sigmund Freud and other psychologists, they laid the foundation for the Culture and Personality School and Psychological Anthropology (see Silverman 2005: 267), thereby decreasing the relevance of “history” which was important to Boas and other cultural relativists. Mead and Benedict speak of a “cultural mind”, which can be understood as the sum of the individual minds of a culture. “Culture” is then understood and explained in psychological terms. In this respect, Ruth Benedict writes about “characteristic psychological responses” that do or do not arise to “dominate the culture as a whole” (Benedict 1960: 197). The theoretical principle that can be derived from this quote could be named “Psychological Determinism” or “Cultural Psychologism”. The supporters of the “Culture and Personality school” or “Psychological Anthropology” address

(...) the question of how people acquire the normal and/or deviant mental and emotional complexes typical of different sociocultural systems. It is also concerned with the problem of universal psychological constituents of the human personality (Harris 1980: 258).

The theoretical principle of Psychological Determinism is not just integral part of Mead’s general work, but it can also be found in the title of her famous book “Coming of Age in Samoa:

a psychological study of primitive youth for western civilization” (Mead 1936). She explains cultural behavior in psychological terms. In the focus of humanist researchers lies “mind”. According to many humanist strategies, societies have to be understood from the “inside” perspective. For them, the desired way of humanist fieldwork looks like this:

The ethnographer, on entering the field site, worked to transition himself or herself from outsider to insider, becoming accepted as a quasi member of the society under study on an equal footing to others of similar social standing. A measure of such acceptance and enculturation was the ethnographer’s ability to receive and interpret experiences as an insider would. At the same time, it was recognized that the researcher should maintain the ability to analyze social processes as an external observer, avoiding a complete conversion (Burrell 2009: 182).

Researchers have to go into the field, and try to “get” the emic perspective, the “insider’s” perspective. In the history of cultural and social anthropology, therefore, the interest and focus often lies in cultural aspects like myths and religions, because they can be directly related to “mind” and are often very important to the emic perspective. Modes of production and eating habits, on the other hand, were not as popular in early humanist anthropological research. Of course, research was done about these aspects as well, but to a lesser degree.

So far, I have randomly focused on American humanist strategies and their respective theoretical principles. Idealism was thoroughly exemplified through the theoretical principle of Cultural Psychologism. In other specific humanist strategies, the theoretical principles differ in detail, but they all share an idealist perspective. Human behavior is in these cases always, at least to a certain degree, explained and derived from the human mind or human thoughts, which extended or collectively are viewed as “culture” or “ideology”. Harris therefore writes also about French Social Science that “it has never, to this day, followed a strategy other than that of cultural idealism” (Harris 1968: 465). Applebaum agrees with this view when he writes about Lévi-Strauss’ research strategy: “Structuralism studies human phenomena in societies as incarnated mental activities which are made concrete by their appearance at a certain time and place” (Applebaum 1987: 405). Similar to the British functionalists, therefore, diachronic studies and changing societies are irrelevant to structuralists.

2.1.4. Methodological Principle (MP): Individualism/Holism

Methodological principles existing in the humanist realm are Methodological Individualism and Methodological Holism. Individualism is often associated with Max Weber, while Holism or Collectivism is associated with Karl Marx or Émile Durkheim (see Eriksen 2010: 90). The preferred methodological principle of a specific research strategy or researcher can be derived

from the ontological principles. As I mentioned, anthropologists like Margaret Mead and Ruth Benedict (1960) try to explain “culture” in psychological terms and see societies as the sum of their individual humans, not being anything more than that. For example, Mead wrote in the foreword to her book that she attempts “to enter the mental life of a group in a primitive society” (Mead 1928). The sum of the individual opinions about something gives clues about the whole society. Consequently, proponents of this specific strategy have to support Methodological Individualism.

This methodological principle is connected to the inductive way of researching. First, research is done with individuals, and then theories about society are built upon the information received. In opposition to that exists deductive research, where theories are built beforehand and then are compared and matched with data from the field. In the end, a different methodology and a different methodological principle is a necessity if humans are conceived as being separate from the same influences that plants and animals are determined by, and individual mind or instincts are being in focus.

Methodological Individualism was both part of British and American humanist strategies:

At the heart of the theory, method, and practice of both Malinowski and Boas was a concept of the focus of analysis as being not an organic society or culture, or any theoretical abstraction of the analyst, but the organic individual – actual living human beings, quite like the analyst, in all their complexity, as they are found in the world (Leaf 1979: 181).

What also follows from the humanist’s perspective is a focus on specific regions, specific people and a specific timeframe. As it should be clear by now, humanists are generally not interested in comparing different societies to find any laws or to make diachronic research.

Ruth Benedict attacks colleagues differing in her view of culture as the sum of individual minds:

No one of the so-called organicists really believes in any other order of mind than the minds of the individuals in the culture, (...). The argument between those who have thought it necessary to conceive of the group as more than the sum of its individuals and those who have not has been largely between students handling different kinds of data (Benedict 1960: 202).

Humanist studies tend to ignore the width of cultural phenomena and to focus on depth. Going into as much detail as possible, finding the very unique differences is a sign of qualitative research in contrast to quantitative data which tries to be representative.

In contrast to Benedict and Mead, fellow cultural relativist Alfred Kroeber was a proponent of Methodological Holism, because he viewed “culture” being a “superorganic” entity (see Kroeber 1948), where individuals do not play a role other than being a carrier of “culture”.

In contrast to most American scholars that support Methodological Individualism, there are other strategies in humanist strategies that instead are in favor of Methodological Holism:

The structuralist-functionalists regarded society as an integrated whole where the social institutions ‘worked together’, more or less in the same way as body parts are complementary to each other. The individual was not granted a great deal of interest, and individual agency was seen more or less as a side-effect of society’s reproduction of itself (Eriksen 2010: 90-91).

In the 1950s, a critical response to these structuralist-functionalist models emerged that brought Methodological Individualism to another level. Inspired by Malinowski and Weber, “Actor-centred accounts, which stress choice, goal-directed action and individual idiosyncrasies (...)” (Eriksen 2010: 90), became the center of attention.

2.2. Cultural Materialism: principles and assumptions

In this chapter, I will introduce the essential elements and building blocks of the strategy of Cultural Materialism. I will thereby also refer to the categories explained and defined in the chapter “philosophy of science”.

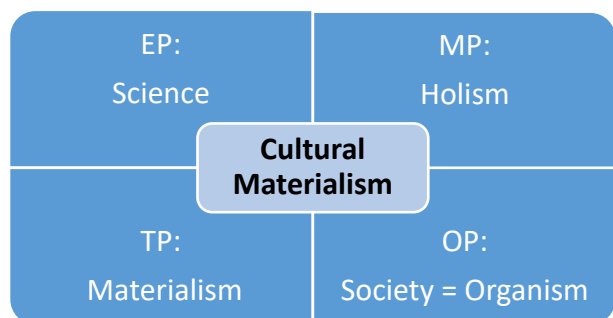
First, the name of this research strategy has to be explained. Marvin Harris does not see himself as the inventor of “Cultural Materialism”, but as the name giver. “Materialism” is linked to the works of Karl Marx, who is described by Harris as the closest thing to Darwin within the social sciences of the 19th century (see Harris 1980: x). Marx was able to show that all kinds of phenomena that were conceived as mystical or supernatural in earlier times were actually understandable and researchable, working as scientific laws. Like Materialism, Cultural Materialism sees resources, territory, water, etc. as factors determining everyday human life, rather than higher ideals, morals, and belief systems. In contrast to the Marx-Engels-Lenin tradition and strategy of Dialectical Materialism, cultural materialists

seek to improve Marx’s original strategy by dropping the Hegelian notion that all systems evolve through a dialectic of contradictory negations and by adding reproductive pressure and ecological variables to the conjunction of material conditions by Marxists-Leninists (Harris 1980: ix).

The term “cultural” is preferred by Harris to alternatives like “historical” or “social” because it does a better job at explaining that the human phenomena in focus are both “synchronic as well as diachronic, and prehistoric as well as historic” (Harris 1980: xii).

In addition, it emphasizes the roots of this strategy in anthropology. Nevertheless, it tries to exceed the limits of the discipline, as well as ethnic and national boundaries. It should also be mentioned that Harris explicitly states that the term “cultural” works in opposition to other scientific strategies that primarily use biological reductionist determinism to explain human phenomena, for example socio-biology, human ethology and so on.

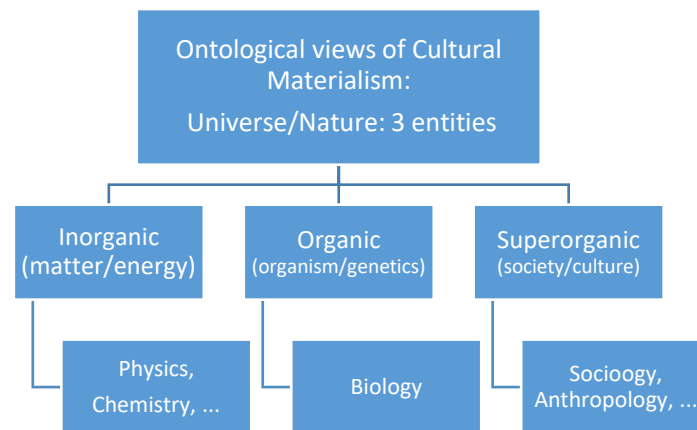
The following graphic depicts an overview of the main principles of Cultural Materialism and explains them further below.



2.2.1. Ontological Principles (OP)

The ontological principle of a research strategy refers to the definition of the research object. When it comes to studying human behavior, one has to consider how human beings are viewed, defined and conceptualized in relation to the universe or nature. As I have shown in the chapter about the ontological principles of Humanism, a distinction is made between “nature” and “culture”, Science being responsible in researching the former, and Humanism researching the latter. In Cultural Materialism, no such distinction is made. Every phenomenon or object in the universe, whether considering humans, plants, rocks or planets, are viewed as part of nature. Since this is a very complex topic, and Cultural Materialism has specific but unique notions of the categories, I separated this chapter into various subchapters which all deal with questions about ontology. I will go into detail into how cultural materialists view humans in relation to the universe, nature, other animals etc., and consider their view on “culture” and “society” as well as “evolution”. The implications for the other principles relevant for the study of human behavior will be obvious.

Cultural materialists view the universe or nature in terms of three existing entities, which all contain distinct qualities and are therefore studied by different fields. This view can be traced back to Herbert Spencer: “(...), Spencer saw the subject matter of the sciences arranged in a developmental hierarchy, and saw the sciences themselves as ranked in importance reflecting the hierarchy. The order of realms of organization was, as is well-known, Inorganic, Organic, Superorganic” (Leaf 1979: 76).



As shown in the graphic, the “inorganic” entity is made up of matter and energy and is studied foremost by the disciplines of physics and chemistry. The entity of the “organic” rests upon and cannot exist without the “inorganic” entity. Disciplines like biology are dealing with the “organic” and are concerned with organisms and genetics. Finally, there is the “superorganic” entity, which is also based upon and would not be in existence without the other two entities. It consists of both “society” and “culture” and is of interest to the fields of anthropology, sociology, etc., and it is consequently also the main focus of this thesis. All three entities are distinct from each other because of a phenomenon of emergence, but they are all considered part of nature:

Thus we see that we have three qualitatively distinct levels or strata of phenomena: the cultural, which is characterized by the symbol; the biological, characterized by the cell; and the physical characterized by the atom, proton, electron, wave, or whatever other unit, or units, the physicist decides upon (White 1949: 17).

Now that we have dealt with the basics of cultural materialist ontological principles, we need to take a closer look at the “superorganic” entity, the focus of this thesis. How do cultural materialists view humans, society and culture?

In summary, we see that we have two classifications of reality which cut across each other at right angles: the one has to do with structure (the atom, the cell, the symbol), the other has to do with process (temporal, formal, and temporal-formal) (White 1949: 18).

What is “human”?

The question about how *Homo sapiens* differs from other species has been debated since centuries. As introduced earlier, humanists see humans as a uniquely gifted species that is able to act freely or in accordance with cultural determination. In such a notion, human “culture” is

actually seen in opposition to nature, rather than as a part of it. Biologist reductionist research strategies (like Socio-Biology) on the other hand view humans as a complex animal. This view roots back to the famous scientist Charles Darwin. According to him, “there is no fundamental difference between men and the higher mammals in their mental faculties” (Darwin 1871: 35). This view sees only a gradual difference between humans and other species. Cultural materialists would argue against that:

(...) there is a fundamental difference between the mind of man and the mind of non-man. This difference is one of kind, not one of degree. And the gap between the two types is of the greatest importance – at least to the science of comparative behavior. Man uses symbols; no other creature does. An organism has the ability to symbol or it does not; there are no intermediate stages (White 1949: 25).

This does not mean that not quite a few stunning similarities exist between humans and close relatives like chimpanzees, as well as other animals. The major difference of the *symbolic faculty* is best exemplified by the following quote:

It is impossible for a dog, horse, bird, or even ape, to have any understanding of the meaning of the sign of the cross to a Christian, or of the fact that black (white among the Chinese) is the color of mourning, No chimpanzee or laboratory rat can appreciate the difference between Holy water and distilled water, or grasp the meaning of Tuesday, 3, or sin. No animal save man can distinguish a cousin from an uncle, or a cross cousin from a parallel cousin. Only man can commit the crime of incest or adultery; only he can remember the Sabbath and keep it Holy (White 1949: 24).

These lines exemplify the fundamental difference between the Homo sapiens and other species, but why and how exactly did humans develop this difference? As I explained previously, Cultural Materialism does not exclude humans but sees them as part of and determined by nature the same way that other species are. The symbolic faculty of humans cannot be used in order to explain the humanist notion of a “free will”. It does not negate external determinism; it only differentiates humans from animals and explains why humans became so dominant on this planet through evolutionary processes and this developed ability:

All human behavior originates in the use of symbols. It was the symbol which transformed our anthropoid ancestors into men and made them human. All civilizations have been generated, and are perpetuated, only by the use of symbols. (...) All human behavior consists of, or is dependent upon, the use of symbols (White 1949: 22).

Little is known about the biological basis of the ability and it does not seem to be of great concern to anatomists, neurologists or physical anthropologists (see White 1949: 31). This also might be the reason why “the anatomist has not been able to discover why men can use symbols and apes cannot. So far as is known the only difference between the brain of man and the brain of an ape is a quantitative one.” (ibid.)

Theories about the symbolic faculty being dependent on the “ability to utter articulate sounds” are not uncommon. According to White, these theories are misleading. Both apes and birds, for example, can reproduce human sounds, and this has more to do with their vocal apparatus than with their brain. White explains the emergence of the symbolic faculty as follows:

To be sure, the symbolic faculty was brought into existence by the natural processes of organic evolution and we may reasonably believe that the focal point, if not the locus, of this faculty is in the brain, especially the forebrain. Man’s brain is much larger than that of an ape, both absolutely and relatively. (...) Now in many situations we know that quantitative changes give rise to qualitative differences. Water is transformed into steam by additional quantities of heat. (...) Thus a marked growth in size of the brain in man may have brought forth a new kind of function (White 1949: 33).

White is referring to a phenomenon of emergence in this quote. What still has to be clarified is how symbols get meaning and how they differ from signs, since animals can in fact perceive and act according to specific signs.

The meaning, or value, of a symbol is in no instance derived from or determined by properties intrinsic in its physical form: the color appropriate to mourning may be yellow, green, or any other color (...). The meanings of symbols are derived from and determined by the organisms who use them; meaning is bestowed by human organism upon physical things or events which thereupon become symbols” (White 1949: 25).

The use of the symbolic faculty can be seen in all kinds of places. For example, when we accredit value to a piece of paper (money), when at the traffic light “red” means stop and “green” means “go” and when we connote a flag with a vast amount of information about history, geography, people etc. The meaning of symbolic faculty will be exemplified more thoroughly with the symbol of the swastika. It is both a sign and a shape, and it does not have inherent symbolic meaning. Over the course of time, it has had various meanings attached to it. For most people on the planet today it symbolizes and is connoted to a party, a genocide, a World war, etc. Thousands of images and thoughts are connected to it. No animal can make use of symbols like this, because they lack the symbolic faculty. Of course, one could try to condition a dog to react negatively towards a sign. But would it be able to grasp the meaning of the symbol itself? Certainly not. Most people living today have not lived during the time of the Nazi-regime. Nevertheless, we are all aware of what a Swastika symbolizes. What contributes to a misunderstanding about symbols is the fact, that sometimes a symbol can also be a sign. In such cases, both humans and animals can respond to it:

It is perfectly true, of course, that dogs, apes, horses, birds, and perhaps creatures even lower in the evolutionary scale, can be taught to respond in a specific way to a vocal command. (...) Words are both signs and symbols to man; they are merely signs to a dog (White 1949: 27).

Both a dog and a human can identify a command or sign and respond accordingly to what they have learnt. So how do they differ? A dog remains passive in the process:

A dog does not and cannot play an active part in determining the value of the vocal stimulus. (...) He learns the meaning of a vocal command just as his salivary glands may learn to respond to the sound of a bell (White 1949: 29).

Humans, on the other hand, do play an active and creative role:

This creative faculty, that of freely, actively, and arbitrarily bestowing value upon things, is one of the most commonplace as well as the most important characteristic of man. Children employ it freely in their play: 'Let's pretend that this rock is a wolf' (ibid.).

Similarly, if one were to draw a house on a piece of paper, most humans would realize what this abstraction symbolizes, while at the same time an animal would not.

The knowledge about this major qualitative difference between animals and humans has been existing for a while and can be traced back to John Locke and Rene Descartes (see White 1949: 30). Nevertheless, there exists an understanding as well that claims that humans are only gradually different from animals, and this has led to an ongoing debate in science.

The ability of the symbolic faculty is the reason why humans developed so rapidly in contrast to animals and changed the entire face of the planet within a short time span. Both humans and animals are evolving through evolution. Biological adaptations take a long time, so organic changes are happening slowly. The use of symbols has allowed humans to evolve through a different kind of evolution, something that cultural materialists would call "superorganic evolution". This kind of evolution is not bound to an organic organism and transferred through DNA, but bound to a social organism and transferred through culture.

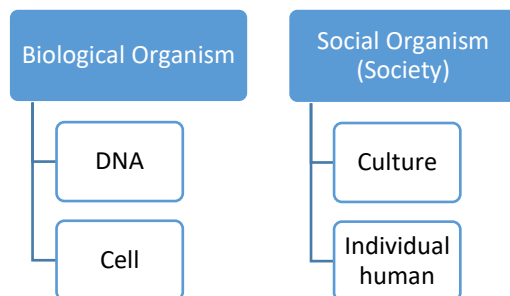
What is "society"?

While definitions about "society" differ in academia, a good starting point for the Cultural Materialist understanding is Herbert Spencer's analogy of society as an organism:

It undergoes continuous growth. As it grows, its parts become unlike: it exhibits increase of structure. The unlike parts simultaneously assume activities of unlike kinds. These activities are not simply different, but their differences are so related as to make on another possible. The reciprocal aid thus given causes mutual dependence of the parts. And the mutually dependent parts, living by and for one another, form an aggregate constituted on the same general principle as is an individual organism (Spencer 1967: 8).

Society is described as a social organism, in the same sense that the human body is an organism (see Spencer 1967: 3). In the organic human body, its individual parts (organs, cells, etc.) each have their own structure and functions, but together they form the human body, an organism with its own structure and functions. All these individual body parts together build a new

quality, and the organism becomes greater than the sum of its parts. The same is true for societies. A social organism is made up out of individual parts, individual humans, families and groups of individuals, each having their own functions and roles. In this famous analogy of the social organism, the equivalent of the individual human in the biological organism would be the cell. Like each cell and organ in the organic body, human individuals fulfill their part in a society, and they are only aware of their own functions and tasks, what they need to do in order to stay part of society. In case of the social organism, a phenomenon of emergence is occurring as well. The social organism is greater than the sum of its parts (individual humans). Society therefore has a different quality than a group of human individuals. This view has implications for the other research principles, which will be discussed within the next chapters.



Marvin Harris describes a society as a “maximal social group consisting of both sexes and all ages and exhibiting a wide range of interactive behavior” (Harris 1980: 47). It does not matter if individuals of a group or society see themselves as part of it or not. It also does not matter if some people of a group do not co-operate or support the group. Central to being a social group is interaction. “The starting point of all sociocultural analysis for cultural materialists is simply the existence of an etic human population located in etic time and space” (Harris 1980: 47).

If we continue to use Spencer’s analogy of the social organism, where does the category of “culture” belong?

What is “culture”?

In Science, “culture” is understood as an emergent network of information. Once again, it can be compared to an organic counterpart in the sense of Spencer’s analogy: DNA. Similar to how DNA or genetics transmit information in case of a biological organism, “culture” is a network on information that is transferred and has an impact on human behavior.

Culture can teach individuals to act and behave certain ways, but it is not inherent in an individual human being.

As it was explained earlier, humanists proposed various differing interpretations about the concept of “culture”, but in all cases they are viewed as a “purely mental phenomenon” (Harris 1995: 7). This understanding implicates that thoughts cause and guide behavior, which cultural materialists disagree with: “(...) the relationship between ideas and behavior is much more complex. Behavior can also guide and cause ideas” (ibid.). In the humanist research strategy of cultural relativism, for example, the term “culture” is used in its plural form since, according to them, every society has its unique culture that can only be understood from within. Cultural materialists, on the other hand, see “culture” as something what all humans have in common and which separates them from animals. The symbolic faculty (White 1949) works as a starting ground for explaining “culture” in the cultural materialist understanding:

All culture (civilization) depends upon the symbol. It was the exercise of the symbolic faculty that brought culture into existence and it is the use of symbols that makes the perpetuation of culture possible. (...) Articulate speech is the most important form of symbolic expression (White 1949: 33).

Whether one looks at a Native American society or at a Western society, both have “culture”, not “cultures”. Both have specific morals and values and ways to organize themselves, all this is part of “culture”. Of course, the specific properties of “culture” differ between societies, but the crucial thing about “culture” is about it being an entirely human phenomenon.

One of the most famous definitions of “culture” stems from Edward B. Tylor. It is considered a valuable definition by both humanists and scientists like cultural materialists:

Culture taken in its wide ethnographic sense is that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society. The condition of culture among the various societies of mankind, in so far as it is capable of being investigated on general principles is a subject apt for the study of laws of human thought and action (Tylor 1871: 1).

Animals do not have beliefs, morals, taboos and various customs like humans and human societies do. The differences and similarities between animals can be explained biologically. However, the differences and similarities between human societies can be explained with “culture”, not with biology. We do not act differently from other people because we are biologically determined to do so; we act differently because we learnt to do so. Speech is the main carrier of our “culture”: “Without speech we would have no political, economic, ecclesiastic, or military organization; no codes of etiquette or ethics; no laws; no science, theology, or literature; no games or music, except on an ape level” (White 1949: 33).

The ability to speak has a biological explanation, but the existence of different languages can only be explained by “culture”. What needs to be added here is that “culture” nevertheless does not oppose or negate “nature” to cultural materialists. In humanist studies, the ontological

distinction of nature and culture is often very obvious, for example in the studies of Lévi-Strauss (1962). For cultural materialists, both humans and animals are determined by their biology, as well as a variety of other forces. Humans are seen as part of nature the same way animals are:

To be sure, with all his culture man is still an animal and strives for the same ends that all other living creatures strive for: the preservation of the individual and perpetuation of the race. In concrete terms these ends are food, shelter from the elements, defense from enemies, health, and offspring (White 1949: 34).

While *Homo sapiens* is a species that is genetically nearly identical all over the world, there is strong diversity in behavior depending on time and place. According to the cultural materialist strategy, these similarities and differences cannot be explained exclusively by biological reasoning. Only “culture” can explain why these differences exist. But since “culture” is part of nature, one has to look at the ways how “culture” was formed through a variety of forces. How cultural materialists explain this can be derived from the theoretical principle, which is introduced in the following pages.

Organic and Superorganic Evolution

In contrast to most humanist strategies, in Cultural Materialism the concept of evolution always received a lot of attention. Organic evolution as such is considered a major factor in the development of our species:

All pathways of anthropological knowledge depart from the study of man’s physical origins. Like other life forms man is a product of evolutionary forces. To understand the relationship between man and nature is to understand man’s evolutionary career (Harris 1987c: 7).

Concepts of evolution exist since the 19th century. At the very base of Cultural Materialism lie the concepts from the so-called classical evolutionists because, despite their flaws, they were important in propagating a scientific study of humankind and culture. The most important of the classical evolutionists for this strategy is Herbert Spencer, who was the first person to give currency to the term and concept of “evolution”, not as often assumed, Charles Darwin (see Carneiro 2003: 3). His early definition states: “Evolution is a change from an indefinite, incoherent homogeneity, to a definite, coherent heterogeneity; through continuous differentiations and integrations” (Spencer 1863: 216). Spencer’s concept of the evolutionary process also stressed “the progression from simplicity to complexity” (Carneiro 2003: 15). At this point it is important to clarify: “Change being ubiquitous and incessant, it becomes necessary to distinguish carefully between evolutionary transformation and two other familiar types of change: variation and growth” (Harris 1987c: 7-8).

Another important distinction was already introduced, the ontological distinction of three distinct entities of nature. It follows that it is also necessary to make a distinction between organic and superorganic evolution, which differ from each other. In the early 20th century, the early concepts of superorganic (or socio-cultural) evolution were criticized for assuming different stages of human evolution and for other errors:

To be sure, the classical evolutionists were not without their shortcomings. Preconceptions, errors of fact, and faulty judgements marred some of their work. And the anthropologists that followed them seized on these inadequacies, magnified them beyond their true proportions, added some preconception of their own, and gave to the world a distorted picture of what cultural evolutionism had been” (Carneiro 2003: 73).

Instead of improving existing concepts and theories, anthropologists of the early 20th century dropped them all together and started to build new and different strategies with different interests (see Carneiro 2003: 75-86). The humanist strategies that emerged had an explicit anti-evolutionist and anti-scientific stance in their epistemology and ontology.

It was not until the middle of the 20th century that science-oriented anthropology re-emerged, especially because of Leslie White. His stance on the errors of classical evolutionism was as follows: “To be sure both Morgan and Spencer committed errors in the use of their philosophy, but a mistake made in the use of a tool does not render the tool worthless” (White 1949: 20). White added a missing link to the early concepts of superorganic evolution, which is the concept of “culture”. While arguing against the “great men theory” (individual humans as prime movers of evolution), Spencer still saw individuals as the driving force that determines society (see Carneiro 2003: 49-50). Spencer loosened his views concerning an individualistic methodological perspective, but it was not until the new science movement of the 1950s that the notion of individuals in determining society and evolution was dropped and replaced with a holistic perspective of society and culture.

Before Marvin Harris took the lead and called the re-emerged science movement “Cultural Materialism”, the anthropologists that took interest in science and cultural evolution were derogatorily called “Neo-Evolutionists” (see Carneiro 2003: 149-150).

Different perspectives on superorganic evolution emerged, some emphasizing ecological determinants (Steward), others rather technological factors (White). One of the most elaborate theories about cultural evolution stems from Carneiro himself, the Circumscription theory about the formation of states through a variety of factors, most importantly population pressure (see Carneiro 2003: 195-207).

While it is not of certainty whether *Homo sapiens* evolved from a single origin in Africa, or from multiple origins in parallel sequences between 150 000 and 100 000 years ago after a long

organic evolution, it is still a fact that the modern human came into existence (see Harris 1995: 27-28). As I have already explained the main ability that appeared was the symbolic faculty, which enabled culture and cultural evolution:

If we consider the world as a unit, culture evolved steadily while the biological basis of intelligence evolved more slowly, if at all. This situation has prevailed for at least 100,000 years. During the last 25,000 years culture has begun to change more and more rapidly; it is not evolving at an exponential rate. Yet at the present moment no significant changes in biological learning capacity can be demonstrated” (Harris 1987c: 155).

Up until 45 000 years ago not much did change. Then a “cultural takeoff” happened:

Prior to this time, cultural and biological evolution occurred at comparable rates, and cultural and biological changes were closely tied together. After cultural take-off, the rate of cultural evolution increased dramatically without any concurrent increase in the rate of human biological evolution” (Harris 1995: 28).

The rapid development in the recent history of our species can only be explained by superorganic evolution, not by organic evolution. It follows that superorganic evolution is the reason for the dominance of our species on this planet and the wide variety of existing cultural forms, etc.

What does this mean for the study of human behavior?

The occurrence of cultural takeoff justifies the contention of most anthropologists that to understand the last 40 000 years of the evolution of culture, primary emphasis must be given to cultural rather than biological processes. Natural selection and organic evolution lie at the base of culture, but once the capacity for culture became fully developed, a vast number of cultural differences and similarities could arise and disappear entirely independently of changes in genotypes (ibid.).

The abilities and the ever-expanding culture also led many humans to believe to be distinct from nature and its plants and animals, not being determined by external forces. This way of thinking is implicit in all humanist strategies. In Cultural Materialism, however, the human species and its culture are despite their uniqueness seen as part of nature:

The existence of a prehistoric cultural take-off point does not mean that culture has freed itself from the laws that govern other phenomena. Evolving past a certain point, culture freed itself from its initial dependence upon the evolution of the brain, but it did not free itself from all biological and environmental restraints. Indeed, both the general and specific pathways or ‘trajectories’ of cultural evolution can only be understood in relation to the continuing interplay between culture, genetic endowment, and relevant portions of the natural environment” (Harris 1987c: 156).

Superorganic evolution is the reason why people born today will learn to behave differently, have different knowledge and perspectives on this world than people who were born thousand years ago. In terms of the organic evolution, humans did not change within this timeframe.

2.2.2. Epistemological Principle (EP): Science

“Science” is a concept, an idea, a method and a philosophy that in the past centuries has tried to gather knowledge and find laws about different phenomena in a variety of ways. It thereby has developed new technologies, insights and inventions in many fields and disciplines. Therefore, also a vast amount of conceptions and definitions exist about it. In the field of inorganic (planets, ...) and organic (plants, ...) matter and respective fields (physics, chemistry, biology ...), the scientific method has not been (successfully) challenged since its emergence (see Harris 1994: 64). In the study of human behavior on the other hand, whether one refers to sociology or anthropology, the early scientific strategies came to end in the early 20th century and were mainly replaced by humanist ideas. In the 20th century, all kinds of studies of human behavior were dominated by an anti-scientific stance, or by a re-evaluation and new defined kind of science that differed from science about non-human phenomena.

In this chapter, I am writing about Science as it is practiced in biology and physics.

I will start with a short definition of “Science”, before continuing my thoughts and explanations. James Lett defines it as follows: “Science is an objective, logical, and systematic technique for acquiring synthetic propositional knowledge.” (Lett 1997: 44)

Inherent in this quote are a few scientific criteria that are explained down below. Now we know what science is, but what is the goal of science and how does it work?

Scientific knowledge is obtained by public, replicable operations (observations and logical transformations). The aim of scientific research is to formulate explanatory theories which are (1) predictive (or retrodictive), (2) testable (or falsifiable), (3) parsimonious, (4) of broad scope, and (5) integratable or cumulative within a coherent and expanding corpus of theories (Harris 1994: 64).

This definition by Harris roots in the philosophical traditions of logical positivism and empiricism. It can be called “neo-positivism”, since it overcomes various critiques of positivism and never states to be “value free” (ibid.)

As mentioned, “objectivity” has remained important and relevant in scientific research about physical or biological phenomena up until today. In the study of human behavior, the concept was a central feature as well, but it was challenged and began to decrease in its importance in the humanist realm.

Leslie White’s understanding of Science puts it into direct opposition to the Arts & Humanities:

Science is not merely a collection of facts and formulas. It is pre-eminently a way of dealing with experience. The word may appropriately used as a verb: one sciences, i.e., deals with experience according to certain assumptions and with certain techniques. Science is one of two basic ways of dealing with experience. The other is art. (...) The purpose of science and art is one: to render experience intelligible, i.e., to assist man to adjust himself to his environment in order that he may live (White 1949: 3).

The distinction between the two verbs of “to science” and “to art” is reflected in the distinction of the physical (natural) sciences and the social sciences:

Implicit in this distinction is the assumption that a fundamental difference obtains between the nature of physical reality and human social reality. This assumption leads to, if indeed it does not include by implication, the further assumption that the data of human society, being essentially different from the data of physics (‘the exact sciences’), are really not susceptible to scientific treatment, hence the social sciences are really not sciences at all; they are not and cannot be ‘scientific’ (White 1949: 5-6).

Leslie White then emphasizes that this distinction should not exist, since the act of “sciencing” is applicable to both the study of physics as it is to the study of humans: “The basic assumptions and techniques which compromise the scientific way of interpreting reality are applicable equally to all of its phases, to the human-social, or cultural, as well as the biological and the physical” (White 1949: 6).

In the late 1940s, a few decades have passed since scientific accounts of human behavior have been published and propagated. When White made his strong case for a science of human behavior, humanism dominated anthropology in the whole world. This also changed with Marvin Harris. To him, scientific knowledge (see Harris 1980: 26-27) always needs paradigmatic presuppositions beforehand. He mentions a variety of terms proposed by others (“paradigm” by Kuhn, “theme” by Holton, “blueprint” by Maxwell and so on), then concludes that the best term to use in this case would be “strategy”. A scientific research strategy to Harris means:

(...) an explicit set of guidelines pertaining to the epistemological status of the variables to be studied, the kinds of lawful relationships or principles that such variables probably exhibit, and the growing corpus of interrelated theories to which the strategy has thus far given rise (Harris 1980: 26).

The concepts and categories relevant in the epistemology of Science are of the same concern to the study of bacteria, as they are to the study of humans. Other scientific criteria on the other hand are only relevant to the study of human sociocultural systems (see Harris 1994: 66-67). These include the separation between human thoughts (mental accounts) and behavior, and the distinction of emic and etic. They are explained further below.

Objectivity & Positivism

In the 19th century Auguste Comte called the “scientific way of knowing” positivism. He aspired to overcome supernatural thinking about god, soul etc. and to develop the new “age of science”, where thought and action would be based only on well-tested, systematized, “positive” knowledge (see Harris 1980: 11).

Since then, positivism and the connected concept of “objectivity” have been widely discussed and challenged. As I mentioned before, this did not bring any major changes to the sphere of the “natural sciences”, where the factors of determinism and “objectivity”, as well as other scientific criteria, remained more or less undisputed (see Harris 1994: 64).

In the study of human behavior, on the other hand, scientific criteria were dropped and replaced with different criteria or different understandings of these criteria (explained in the respective chapter). Cultural Materialism sticks with the epistemology of Science:

The reason that cultural materialists favor knowledge produced in conformity with the epistemological principles of science is not because science guarantees absolute truth free of subjective bias, error, untruths, lies, and frauds. It is because science is the best system yet devised for reducing subjective bias, error, untruths, lies, and frauds” (Harris 1994: 64-65).

In response to strategies that deny any concepts of objectivity, forms of laws, generalizations, single reality, truth, etc., Harris emphasizes once more that Cultural Materialism never speaks about absolute certainty, but about probabilities, and not about laws, but about generalizations. Generalizing is integral part of Science, particularizing is the opposite. If research were to particularize every phenomenon and every single human act and behavior, it would lead to an endless amount of specific information, but not to insights, knowledge and explanations of cause and effect: “The better the generalization, the more probable its applicability to the particular case, the more useful it is” (Harris 1994: 66).

Theories

Like other scientific strategies, Cultural Materialism is in favor of theories that try to explain cause and effect of phenomena:

Scientific theories find acceptance in accordance with their relative powers of predictability, testability, parsimony, scope, and integratability as compared with rival theories about the same phenomena. Since one can only approach, but never completely reach, perfection in this regard, scientific theories are held as tentative approximations, never as ‘facts’ (Harris 1994: 64).

Subjective interpretations, as they became popular in the humanist realm of Cultural and Social Anthropology in the 1970s, are viewed by scientists as having no explanatory value. The differences become clear just by looking at the goal of each of these strategies. All scientists try to explain phenomena or behavior. Humanists sometimes try to explain as well (mostly in a more limited scope), but often they also only try to describe phenomena and behavior. In terms of scope and complexity, scientists usually are in favor of producing macro theories, to build a generalized law that claims to be universal. For example, it would not make sense for Newton

to formulate the “law of universal gravitation” if it was only valid occasionally and in specific places. In anthropology and other social sciences, universal theories have been tabooed since the early 20th century because of their dominant humanist and individualist strategies. What is inherent in the contradicting interests of scientists and humanists is the different ontological understanding of culture as part of nature vs. culture being distinct from nature.

In Science, theories are proposed to be valid independently of time and space. In Humanism, however, both in the past and nowadays theories are regionally focused, descriptive, interpretative, and bound to a specific time, as well as to the perspective of a specific researcher (or the emic perspective of a few individuals of the researched group). The scope and complexity of these strategies is limited to the meso or micro level.

Macro theories of human behavior are possible, according to scientists like cultural materialists, because they view human behavior determined through external factors. If similar conditions and factors determine similar behaviors in different societies, this would prove the point of scientists, which is that there are universal cause-and-effect connections. Scientific theories can turn out to be true or false, they can nevertheless be scientific if they meet scientific standards. They start out by building a hypothesis, not a question. They have to be falsifiable and verifiable. A statement like “today it can rain or it can not rain” is not a falsifiable or verifiable statement, ergo not a scientific theory. Science works with a deductive-nomological theory model. In contrast to theories, the principles introduced here are not falsifiable or verifiable. Every researcher works with these principles. One can only review principles by looking at theories built upon them.

The aspiration of cultural materialists is to “penetrate beneath the surface of phenomena, to reveal new and unsuspected relationships, to tell us why and how things are what they are (...)” (Harris 1980: 77). Additionally, theories produced by cultural materialists are supposed to be of

broad scope and wide applicability, (...) explaining much with little – and that they form a compact, logically coherent, and interpenetrating set of answers to why human sociocultural systems are both similar and different (Harris 1980: 78).

Emic/Etic and Thought/Behavior

As mentioned in the respective chapter on Humanism, the terms “emic” and “etic” were proposed by linguist Kenneth Pike (Pike 1971) and try to overcome problems with the terms “objective” and “subjective”. “Emics” describes the perspective of the researched people (or

the “insider’s” perspective), while “Etics” describes the researcher’s (or “outsider’s”) perspective.

This distinction could not be of relevance to anything but the study of humans. When studying other species, a scientist can only capture the etic perspective, and thereby build theories about the behavior of animals. In contrast to humanist and idealist strategies, cultural materialists never emphasized the importance of the emic perspective and do not aspire to “go native”. This is because (see Harris 1980: 47) cultural materialists initially start with the etic perspective when looking at human behavior. The “etic” perspective (see Harris 1980: 32) does not deal with the native’s interpretations, views or categories, but rather cares about scientific and analytical categories that try to give an account of an objective reality. The preference for the etic perspective also has to do with the ontological understanding of society. If society is indeed more than the sum of its individuals, it makes no sense to conclude from a high number of emic statements to a theory about society.

The etic perspective is successful when it is able “to generate scientifically productive theories about the causes of sociocultural differences and similarities” (ibid.). This does not mean that the emic perspective is invalid to cultural materialists: “Despite a persistent barrage of uninformed or malicious assertions to the contrary, cultural materialists insist that the proper study of humankind is both emics and etics and both thought and behavior” (Harris 1994: 67).

The distinction between emic and etic is crucial to the epistemology of Science, as is the separation of thought and behavior (see Harris 1994: 66-67). These distinctions lead to four types of knowledge: “(1) emics of thought; (2) emics of behavior; (3) etics of behavior; (4) etics of thought”. These categories are also relevant for the theoretical principles of Cultural Materialism, introduced in the next chapter.

An example for these four types of knowledge would be: A group of people thinks that they should be praying three times a day (1). The people of this group say that they are in fact praying three times a day (2). It is observed by an outsider/researcher that these people are in fact not praying three times a day (3). The observer comes to the conclusion that the ideals of the group do not match reality in this case and researchers may find the reasons for that (4).

In anthropology, there has been an enduring debate about whether it is possible to gain an etic perspective of human behavior, because researchers are humans themselves and therefore they cannot be objective and neutral. From my explanations so far, it becomes clear that to cultural materialists this distinction is vital, and both perspectives can (probabilistically) be captured.

Harris writes that etic operations often “involve the measurement and juxtaposition of activities and events that native informants may find inappropriate or meaningless” (Harris 1980: 32). If a scientist is only interested in the emic perspective, only what is interesting to the natives will be relevant to research and included in the study. Sometimes both the emic and etic perspectives are of interest, and in such cases, interesting insights can be gained by looking at the results. One of these intriguing examples of differing results and a contradicting outcome of research done with both the etic and the emic perspective can be displayed with the results of the “Tucson Garbage Project” (see Rathje & Cullen 1992). A group of researchers interviewed Arizona citizens about their behavior in terms of purchasing and wasting food. At the same time, they were examining and analyzing the actual waste and garbage from each interviewed family. The results showed that the emic perspective was far off from the etic perspective. Cultural materialists would see this example as proof that a researcher usually cannot find a correct and truthful knowledge by only asking individuals about their behavior. They might lie and adapt information on purpose, and apart from that, humans can have a very unique and filtered perception of actual events. The interviewed families presented themselves in a more positive light than the actual garbage would reveal. They were purchasing healthier foods than mentioned, and they would waste more food than they thought.

Harris himself provides another example of how emic accounts of reality and the factual reality were differing when doing research in southern India (see Harris 1980: 32-33). While all interviewed farmers made it clear they would never voluntarily kill their own calves and both male and female are treated equally, the hard facts told a different story. The mortality of male calves was approximately twice as high as that of female calves. It turned out that male calves were in fact not slaughtered but neglected, weakened, and thereby starved to death. When neglecting the etic perspective and only looking at the emic point of view, the final study would certainly lead to different results than in the case of focusing on the etic perspective.

Important elements of scientific research, namely replicability or testability, are not possible to be achieved when the emic perspective is part of the research strategy, since the worldviews of the observer and the observed are mixed up and blurred (see Harris 1980: 33).

2.2.3. Theoretical Principle (TP): Materialism: Infrastructural Determinism

The theoretical principles describe the ways of a specific research strategy to explain phenomena and behavior. In the case of Cultural Materialism, the primary goal is to theorize

cause and effect of human behavior or social phenomena. In contrast to idealist humanist strategies, Cultural Materialism explicitly disagrees about the concepts of “free will” or “mind” and does not see “culture” being the primary force of determining human behavior. The counterpart to the humanist “Idealism” is the scientific “Materialism”. According to Cultural Materialists, humans are determined in their behavior by a set of materialist factors, the same way that other species and matter are subject to materialist determination. Other scientific strategies, namely biologist reductionist strategies like Socio-Biology and Evolutionary Psychology, see humans as animals that are more complex and therefore emphasize bio-psychological factors as the prime determinants of human behavior, and respectively all phenomena of societies (see Sahlins 1993). Cultural materialists acknowledge biological and bio-psychological determinants (see Harris 1980: 51), but they are not considered to play the biggest role in determining our behavior.

One has to go back to Karl Marx in order to understand where the roots of the theoretical principles of Cultural Materialism lie:

The mode of production in material life determines the general character of the social, political, and spiritual processes of life. It is not the consciousness of men that determines their existence, but on the contrary, their social existence determines their consciousness (Marx 1970 [1859]: 21).

Marvin Harris draws from Marx’s materialist principle about the mode of production, reformulates and extends it:

The cultural materialist version of Marx’s great principle is as follows: The etic behavioral modes of production and reproduction probabilistically determine the etic behavioral domestic and political economy, which in turn probabilistically determine the behavioral and mental emic superstructures (Harris 1980: 55-56).

This theoretical principle was extended over time by Harris himself to include additional factors. Before going into the more recent adaptations to the theoretical principles, further aspects have to be considered. The epistemological distinction between thought and behavior, as well as emics and etics, is crucial when it comes to the theoretical principle of Cultural Materialism. Marvin Harris proposes a tripartite scheme that all socio-cultural systems consist of:



“Infrastructure” is the point where “culture” and “nature” intersect and it is within this intersection where one can find the

ecological, chemical and physical restraints which humans interact or react to, by sociocultural practices that try to action is subject interact with the principal sociocultural practices aimed at overcoming or modifying those restraints (Harris 1980: 57).

All societies are concerned with satisfying their substantial needs (food, ...), ergo their means of subsistence/production, as well as dealing with reproduction, both secure that the population is not increasing or decreasing in ways that are dangerous for the society (see Harris 1980: 51). The infrastructure is therefore made up of the “etic behavioral mode of production” which is described by Harris as follows:

The technology and the practices employed for expanding or limiting basic subsistence production, especially the production of food and other forms of energy, given the restrictions and opportunities provided by a specific technology interaction with a specific habitat (Harris 1980: 52).

That includes, for example, the technology of subsistence, techno-environmental relationships, ecosystems and work patterns. The “etic behavioral mode of reproduction” is also part of the “infrastructure” and deals with “the technology and the practices employed for expanding, limiting, and maintaining population size” and includes factors like demography, mating patterns, fertility, mortality and contraception (ibid.).

Other major concerns of socio-cultural systems include “maintaining secure and orderly behavioral relationships among its constituent groups and with other societies” (Harris 1980: 51). The “structure” of a society is subsequently made up of the domestic economy (family structure, age/sex roles, domestic- division of labor, hierarchies, sanctions, socialization, education, ...) and the political economy (political organizations, corporations, division of labor, taxation, class, caste, police, ...). It is therefore responsible for the organization of production, reproduction, exchange and consumption on two different levels or sizes, the domestic setting and the grander setting of villages, chiefdoms or states. There is also the superstructure that contains all kinds of symbolic parts of society (rituals, ideology, art, music, literature, ...) (see Harris 1980: 52-53).

All these etic behavioral components also do have mental and emic components. Harris lists a few examples for the etic infrastructure. Since the thesis is food-related, I shall stick with this example. The emic interpretation of the etic component of securing subsistence could, for example, be religious food taboos, or rituals and ceremonies connected to meals. In case of the structure of society, an emic perspective could be concerned with the division of labor within a group. The etic reasons for specific labor executed by specific people might differ from the emic reasoning about the very same behavior. Harris summarizes all emic interpretations of etic behavior within the sphere of the “mental and emic superstructure” (Harris 1980: 54). One

central and integral feature of human social behavior is, of course, language and communication, but it is excluded from these components since it cannot be directly attached to one of them. Language is integral to the sphere of the “structure” of a society, and all kinds of ideologies, values etc. (superstructure) are built upon the possibility of a shared understanding of symbols (ibid.)

Given its Science-approach, this theoretical principle is supposed to offer a “set of priorities for the formulation and testing of theories and hypotheses about the causes of sociocultural phenomena” (Harris 1980: 56). When trying to explain human behavior, cultural materialists therefore rely on using the theoretical principle of “Infrastructural Determinism”:

The components of social life which most directly mediate and facilitate the satisfaction of biogram needs, drives, aversions, and behavioral tendencies constitute the causal center of sociocultural systems. The burden of this mediation is borne by the conjunction of demographic, technological, economic, and ecological processes – the modes of production and reproduction – found in every sociocultural system (Harris 1994: 68).

Cultural Materialism emphasizes and prioritizes infrastructural factors over structural or superstructural ones as having the biggest determining impact on human behavior: “We know that powerful restraints exist on the infrastructural level; hence it is a good bet that these restraints are passed on to the structural and superstructural components” (Harris 1980: 57).

Unlike idealist strategies like Humanism, Cultural Materialism does not consider the level of the superstructure with its ideologies, religions, values, etc. to play a major role in the causation of human behavior. In contrast to what critics of Cultural Materialism accuse it of, it is not implied by them that ideologies and beliefs do not have an impact on human behavior at all. In order to fully understand where the cause of certain behaviors and phenomena originate though, one has to dig deeper, beyond the superstructural (ideological) surface. As it will be shown in the specific example of the pork taboo in the Middle East, the superstructural explanation by Douglas (1969) has a very limited explanatory value because it does not exceed idealist reasoning. To see how ideologies emerge and develop in the first place, one is ought to start evaluating the infrastructure and structure of a society, before dealing with its superstructure. Major changes in the infrastructure of a society heavily impacts the other levels as well, which is not the case the other way around (see Harris 1980: 57).

According to Harris, infrastructural determinism works better as the theoretical principles proposed by humanist strategies like structuralism and biologist-reductionist strategies like socio-biology, because “the recurrent limiting factors are variables that can be shown to exert their influence in measurably variable ways” (Harris 1980: 58). There is a strategic advantage to that. It “(...) enables cultural materialism to construct theories that account for both

differences and similarities. The need to eat is a constant, but the quantities and kinds of foods that can be eaten vary in conformity with technology and habitat” (ibid.).

To make the point of the varying importance of the different levels (infrastructure > superstructure) of socio-cultural systems even clearer, I will finish this chapter with the following quote:

Unlike ideas, patterns of production and reproduction cannot be made to appear and disappear by a mere act of will. Since they are grounded in nature they can only be changed by altering the balance between culture and nature, and this can only be done by the expenditure of energy” (Harris 1980: 58).

2.2.4. Methodological Principle (MP): Holism

The methodological principle of Cultural Materialism can be directly derived from their ontological and theoretical principles that focus on societies and theories of the macro level instead of individuals and the meso/micro perspective. The ontological notion of society as an emergent phenomenon that is more than the sum of its individuals is especially relevant here (see URL 5). Holism means that knowledge and theories about human behavior cannot be produced by simply looking at individual behavior and mental accounts about this behavior or by trying to understand phenomena from “inside” (emic) criteria (through interviewing personal beliefs etc.):

Cultural phenomena are super-, or supra-, psychological determinants of human behavior. They are super-psychological in the sense that it is beyond the scope of psychology to account for them. Psychology cannot explain, eg., why one people has clans (behaves “clanwise”) while another does not; why one people eats with knives and dorks, another with chopsticks; why a people prohibits marriage between parallel cousins but requires marriage between cross cousins; why a tribe practices polyandry, observes the mother-in-law taboo, forms plurals by affication, uses money, etc. (White 1949: 73).

In contrast to cultural materialists, biological reductionists and most humanists (sociologists, psychologists, etc.) usually follow an individualistic methodological principle.

According to Leslie White, that is a big mistake:

(...) a description of subjective psychological experience correlated with an institution does not constitute an explanation of the institution. The experience of the ego is a function of the institution, not its cause. And, the institution must be explained culturologically (White 1949: 136).

Culturology is seen by White in opposition to psychology and as the way sociology is supposed to be. He claims though, that it is not society (or societies) what distinguishes humans from other species, but “culture” is. Only the study of “culture” can explain the similarities and differences between humans. Why some societies have a patrilineal lineage and other a

matrilineal lineage; why some do not eat pork, while others do not eat cows, etc. Referring to the methodological holism, White states:

But, as the culturologist demonstrates, culture may be treated as if it had a life on its own, quite apart from human organisms, just as the physicist may treat a falling body as if there were no atmospheric friction (White 1949: 144).

He shares a few examples about the problems of methodological Individualism that are directly linked to the theoretical principles of Idealism, Psychologism or Biological Reductionism.

Even when hypothetically asking every single individual of a group about what they believe or do (which usually is not feasible in reality), the researcher will not automatically find the actual reasons, cause and effect of the phenomena of interest. As a reminder, this is derived from the notion that societies are greater than the sum of the individuals the society is made up from. This can be exemplified best by our own western society, because of its huge complexity and the amount of people involved in this society. Hardly anyone would argue with the fact that our society is strongly under the influence of capitalism. Everyone partakes and accepts the notion that a piece of paper has value attached to it and can be exchanged against all kinds of goods. Every individual knows how to behave within this system, how to receive money, how to spend it, etc. Even well-read people, experts, etc. can nevertheless not grasp and understand the whole system. A diverse bunch of experts has utterly different opinions about its future. It is too complex for individuals to understand. It nevertheless works, because individuals do not need to know everything, they only need to know their specific part. Individual humans are not in control of what is happening to the social organism.

What is the conclusion of this? When researching human behavior, a holistic perspective does not assume that cause and effect of this behavior can be found by multiplying individual motives or instincts to the level of society. One has to consider society as an entity by itself, with different rules and logic than that of individual human beings.

3. Human Foodways: Habits and Taboos

Why should the study of human foodways, habits and taboos be of interest to researchers? In the past, the research of nutrition and human food habits did not always receive a lot of attention within the study of the human condition. If food was a topic of interest, it was usually a part of a bigger question about the subsistence and different ways of production of societies. For example, whether they are hunting and gathering, if they are horticulturalists or if they practice agriculture. Little research has been devoted to the question of why people develop certain eating habits, why they prefer certain foods to others, and why aversions against certain foods exist, despite their edibility.

According to anthropologists Malinowski (1932) and Mintz (1996), the topic of nutrition was historically underappreciated and underestimated in research for different reasons, which are explained further below. After neglecting it for long in early studies of the human condition, a variety of researchers throughout the 20th century started to deal more and more with this topic and recognized its importance for the study of human behavior. As a result, an enormous amount of food studies exists today. In the end, nutrition, hunger and subsistence are constants that were of concern to all societies and to all humans in all times of human existence. Both humanistic and scientific studies on human foodways exist in a large number today and they offer an opportunity to compare these two research strategies.

By looking at the different outputs and theories postulated about human foodways by Humanism and Science, I can show how these different research principles and interests lead to varying results. In the end it will be shown which way of doing research is able to provide a better understanding of human behavior, in terms of food and in general.

First, I will introduce a compilation of different theories originating in the fields of cultural and social anthropology, as well as social psychology that can all be subsumed within the Humanist spectrum. While the theories come from different research strategies and differ in detail, they all share some basic assumptions about the human condition and specific research principles. The main underlying assumption of humanist theories is about human distinctiveness, being apart from nature through “mind” and the resulting idealist theoretical principles. I chose to exemplify the humanist strategy with theories that try, similarly to scientific strategies, to explain the cause of certain human behaviors. Many humanist studies nowadays are rather descriptive and do not deal with explanations. To be able to compare the two strategies more directly, I made this decision.

Afterwards, I will exemplify the cultural materialist strategy based on specific theories about “food taboos” and habits, primarily originating from Marvin Harris (1987b) and Eric B. Ross

(1987). Some of the examples I am going to introduce have been researched and argued about from both the humanist as well as the cultural materialist side. In the following two chapters, I will focus on each research strategy by itself.

Finally, in the fourth chapter, both strategies are going to be compared in their credibility and claims to explain human behavior.

3.1. Humanist Explanations of human foodways

As introduced in chapter 2.1., humanist inquiries about human behavior can go many ways. Within the 20th century, there was a continuing tendency of going further into depth and becoming more and more particular about the focus of research. If one takes a look at psychology, sex historically became (through Freud) the prime interest to psychologists. According to them it was the main drive of humans, and in agreeance with many biologists, the evolutionary drive to procreate and secure the survival of the species. In the preface to Audrey Richards' book "Hunger and Work" (Richards 1932) written by Malinowski, he stresses the point that sex gets too much attention in research of human behavior and human urges in comparison to the drive of "hunger" (especially in Psychology):

Common sense tells us that nutrition is an independent impulse, more important, if anything, than sex. And yet what do we know of nutrition as a creative force in human societies and cultures? (Malinowski 1932: xi).

For him, nutrition is a starting point for thinking about economics, development of human values, co-operation, etc. As in the case of Richards' research with the Bantu tribes, his own research with the Trobriand Islanders confirms to him the relevance that food has in "primitive" societies, especially in comparison to sex (see Malinowski 1932: X-XVI).

Sidney Mintz sees the reason for nutritional behavior being overlooked in anthropology in the back then male-dominated fields of researching non-western societies: "Women in such societies commonly did much of the labor to collect or grow food, as well as nearly all of the cooking. Most anthropologists were men, and didn't find such matters especially interesting" (Mintz 1996: 3). When "food" was relevant to research, it mainly worked as an instrument for the study of more "exciting" phenomena like ceremonies and taboos (ibid.).

One of the first people to write specifically about human food behavior was Audrey Richards (1932). She wrote that it is important to consider "nutrition" as a biological process, but the task of anthropologists is to research the social, cultural or symbolic dimensions of food:

But in spite of the wide choice of foodstuffs open to him, man's diet is limited in actual fact: and limited not by environmental or biological factors, but by the traditional

regulations of the society into which he is born. Culture imposes restrictions where nature would have left him free. We find, for instance, that primitive peoples may refuse food of excellent dietetic value because of a belief that it is magically dangerous, either to the whole community, or to the members of a special social group, such as a totemic clan (Richards 1932: 8).

Inherent in this quote is a form of Cultural Determinism and the neglect of infrastructural factors. The aspect of culture working as an idea and viewing it separate from nature makes this argument especially humanistic. In contrast to later humanist studies, Richards also emphasized the importance of sociological rather than psychological viewpoints and the inclusion of both biological and cultural factors into account when researching, in order to gain a systematic view of the phenomenon and the relevance of nutrition in societies (see Richards 1932: 9-10). Comparative or descriptive data alone does not ask and understand the role customs and habits play in a society (in other words, which functions they have). Human motives and values should be in the center of sociological research, and this research can only be done by first-hand observation and analyzation (see Richards 1932: 18-23)

Mintz agrees to the statement that eating is never purely biological, with people fasting, having diets, existing problems like anorexia, bulimia and so on: “Nourishment, a basic biological need, becomes something else because we humans transform it symbolically into a system of meaning for much more than itself” (Mintz 1996: 6).

For example, the knowledge to use tools to produce and prepare food needs to be learnt through education and cannot be explained by natural instincts (see Richards 1932: 4-5). Nutritional activities have to be seen as social activities. Food-related activities play a bigger role in “primitive” societies than in “ours”, more time is spent on producing and preparing food and starvation can be an actual problem. Most importantly, food-related activities produce ties between different members of a group. Nutritional needs dominate their lives and everything else pretty much revolves around it (see Richards 1932: 14-15).

Mintz also emphasizes the relevance of food in societies that consume the food they produce themselves. He acknowledges that these societies are shrinking in numbers:

Anthropology today deals with a world in which, more and more, people do not consume what they produce and do not produce what they consume, even much of their food. In this world, anthropologists have begun to think about international issues involving the differential food productivity of different continents, the spread of new foods, and especially, food supplies in relation to the growth of world population” (Mintz 1996:10).

Everything about the nutritional situation and food-behavior in western societies has changed, and the lifestyles of most people is not concerned with producing food but limited to consuming

it. The question of food production is now even more connected to issues of power, and it changes the lives of whole communities whether or not they can produce and export certain foods for other people (see Mintz 1996: 11). Mintz also emphasized the importance of how food plays a role in building people's identity (see Mintz 1996: 12-13). By the accounts just given, it becomes clear that nutrition was overlooked in research about human behavior. Over the course of the 20th century, this changed.

The recent growth and popularity of food studies can be attributed to feminism and women's studies because they were "legitimizing a domain of human behavior so heavily associated with women over time and across cultures" (Counihan/Van Esterik 2013: 2). Additional reasons for the sudden popularity of food studies are its novelty which provided a vast amount of new research possibilities, and the links of food to politics and social movements, "as food links body and soul, self and other, the personal and the political, the material and the symbolic" (ibid.).

Nowadays a vast amount of humanist studies about human food behavior exists, and they differ in detail, but have similar themes.

Many humanist studies focus on the connection of food and questions about identity. For example, Richard Wilk (see Wilk 2013) writes how the foodways of people in Belize changed from colonial times until today and how this influenced the people in how they view and construct their identity. Not all food studies about identity are as straightforward. Tulas Srinivas (see Srinivas 2013) connects new dietary behavior with questions about authenticity and definitions of family and motherhood.

In some cases, humanist studies even focus on a few individuals to tell their story, as in the case of Deborah Barndt's study "On the Move for Food: Three Women Behind the Tomato's Journey" (see Barndt 2013).

Exemplary for modern humanist food studies certainly is also a focus on problematizing food-related behavior or theorizing ethical issues connected to the production or consumption of food. This could, for example, concern the problematization of volunteer work that saves and keeps the US government from doing something about inequality (see Poppendieck 2013), the traumatic experiences of people working in the meatpacking industry (see Schlosser 2013) or the issues of body image and eating disorder, caused through media and social pressures (see Bordo 2013). Lisa Heldke (see Heldke 2013) goes further by philosophizing about the popularity of ethnic foods, which she views as "cultural food colonialism". When visiting ethnic restaurants or cooking exotic foods she sees herself being "strongly motivated by an attitude bearing deep connections to Western colonialism and imperialism" (see Heldke 2013: 395).

She views her behavior resembling that of anthropologists, artists and explorers of the 19th and 20th century, borrowing and taking resources for their own benefit. One example of ethical evaluations of human foodways is presented in more detail in this thesis. I will present Melanie Joy's concept of Carnism (see Joy 2011), which criticizes meat-heavy diets and tries to explain how meat-eating is an ideology rather than a necessity.

All these studies are strongly concerned with the emic perspective of food-related behavior, which is why questions about identity, morals, values, symbolism, meaning and thought lie at the core of them. They are rather concerned with thoughts about and descriptions of human behavior and phenomena, rather than explanations of their causes. In addition, humanist studies tend to focus on specific regions and symbolic aspects of human life, not on materialist aspects and generalizations on the macro level.

While the humanist theories introduced in this chapter differ from each other in their specific concepts and reasoning, the humanist epistemology and idealist theoretical and ontological principles combine them. The theories and concepts presented here originate from different schools and disciplines. Some may focus on specific aspects of human behavior or food taboos, others even try (in contrast to most humanist studies) to suggest a universal human behavior. These theories come from the British structuralist-functionalist school, the French structuralist school, Symbolic Anthropology and social psychology. In the following three subchapters, I chose to introduce examples and theories that are not part of the newer humanist, postmodern strategies. This is because postmodern strategies are entirely anti-scientific in that concern that objectivity, theory-making, generalizing, nomothetic questions etc. to them are completely obsolete. The humanist theories introduced here are rather "classical" ones, with the exception of the last one. I chose these three humanist theories because they can be compared better with the scientific research strategy than more recent postmodern examples.

3.1.1. Food as "Thought"

The first example of a humanist study of food-related behavior that I present here was originally published by the famous linguist and anthropologist Claude Lévi-Strauss in a magazine in 1966. One of the most comprehensive compilations of anthropological food-related studies by Counihan and Van Esterik views Lévi-Strauss' "culinary triangle" as a core foundation of food-related research. The researchers describe it as a "classic structuralist statement, often critiqued, shows how food preparation can be analyzed as a triangular semantic, much like language" (Counihan/Van Esterik 2013: v). Before going into the specifics of his concept, Lévi-Strauss's theoretical background needs further explanation.

Lévi-Strauss was always committed to human universals and assumed properties of the human mind that remained untestable and unfalsifiable, most prominently the tendency of humans to think in binary oppositions, ergo dichotomies (see Eriksen 2010: 21).

Assuming and focusing on human universals is contrary to many other humanist strategies. What still makes his strategy very humanistic is the focus on human “thought”, rather than behavior, and the ignoring of material factors.

One of the most famous dichotomies that Lévi-Strauss uses and assumes to exist in all societies is the opposition of culture and nature (see Eriksen 2010: 50). This view has been both agreed and disagreed with. On a side-note and as a reminder it has to be mentioned here that unlike Lévi-Strauss, cultural materialists view “culture” as part of nature, not in opposition to it.

Parkin describes how Lévi-Strauss formed the approach of “Structuralism”:

(...) he developed a view of structure as a set of relations rather than a matter of substance (...). In Lévi-Strauss’s notion of structure, the nature of the relations remains constant, however much the substances or entities they relate together – the content of the relations – varies from case to case, whether within societies or between them. And being unconscious, structures are uniform, being the location where cultures meet and can be compared (Parkin 2005: 210).

One of those universal structures or patterns of thinking that are supposed to exist in all societies but in various different interpretations are, according to Lévi-Strauss, “myths”. They can be analyzed and put into specific modules which are structured. “Culture” can only be analyzed from the outside and not from within the inside according to this logic. Another example of universal structures is food-related:

Yet another is the meal, with a fixed pattern of courses that is contrasted with the variety of actual dishes that might be offered in each course. In all of these the linear dimension of the message is subject to a set of rules, but also to more or less conscious selection within those rules (Parkin 2005: 210).

What is inherent in all his works is a strong tendency to use dichotomies, and he also emphasizes that this oppositional thinking lies at the base of human thought structures.

An important aspect of Lévi-Strauss’s work and thought is

the conjunction between objective characteristics that apply to all humans as members of the same species, and the cultural variation whereby humanity divides itself up. At a certain level, Lévi-Strauss’s structuralism depends on common human mental attributes that themselves are based on sheer physicality. Regardless of their cultural specificity, humans everywhere think in terms of binary oppositions because they share aspects of mind. This is because their brains are physiologically identical, which derives from the fact that they are all members of the same species. This is also where nature and culture meet (Parkin 2005: 212).

In this quote, it is once again emphasized that Lévi-Strauss assumes and supports the notion of humans having universal features that are of interest to him. The universal aspect of Structuralism is unusual for humanistic research strategies. Similar to many scientists, he works deductively, also in contrast to many modern humanists. Nevertheless, Lévi-Strauss is a true humanist. This is foremost true because the universal feature is entirely located within the human mind, and cultural variations are only described and interpreted in order to support the concept of Structuralism. The cultural variations are not explained in terms of cause and effect, as they are in scientific research strategies.

Now that the theoretical background has been examined, the concept of the culinary triangle can be dealt with. Lévi-Strauss suggests that cooking is, just like language, a “truly universal form of human activity: if there is no society without a language, nor is there any which does not cook in some manner at least some of its food” (Lévi-Strauss 2008: 40).

Cooking is seen therefore as a cultural activity that separates humans from animals. Lévi-Strauss begins his concept with the introduction of a triangular semantic field with three categories: “the raw”, “the cooked” and “the rotten”. He views the category “cooked” as the cultural transformation of “the raw”, while “the rotten” is viewed as the natural transformation of “the raw”. He connects this triangle with the two dichotomies of elaborated and unelaborated, as well as the famous culture/nature dichotomy (see Lévi- Strauss 2008: 41). To Lévi-Strauss, the different notions in the semantic triangular field are “empty forms” that receive culturally relative meaning:

No doubt these notions constitute empty forms: they teach us nothing about the cooking of any specific society, since only observation can tell us what each one means by ‘raw’, ‘cooked’ and ‘rotted’ and we can suppose that it will not be the same for all (ibid.).

In contrast to the sciences, humanists do not necessarily use concrete categories, but they depend on emic interpretations of these. Depending on the society, “raw” or “cooked” becomes a question of emic definition, rather than an etic understanding of these terms. As examples he mentions the Norman cheese dairies. It apparently smelled to American soldiers in World War II similar to corpses, therefore they had an extended understanding of the “raw” category in contrast to Frenchmen like himself (ibid.). Depending on the society, the categories are attached to different symbols and meanings.

Lévi-Strauss continues to add layers to his oppositional view of nature and culture:

Roasted food is directly exposed to the fire; with the fire it realizes an unmediated conjunction, whereas boiled food is doubly mediated, by the water in which it is immersed, and by the receptacle that holds both water and food. On two grounds, then, one can say that the roasted is on the side of nature, the boiled on the side of culture: literally, because boiling requires the use of a receptacle, a cultural object; symbolically, in as much as culture

is a mediation of the relations between man and the world, and boiling demands a mediation (by water) of the relation between food and fire which is absent in roasting. (...) Behind the opposition between roasted and boiled, then, we do in fact find, as we postulated at the outset, the opposition between nature and culture” (Lévi-Strauss 2008: 41).

Lévi-Strauss suggests various examples of both Western and non-Western societies where the category and value given to “roasting” or “boiling” is, for instance, symbolically linked to a specific gender. For example, the Trumai, the Yagua and the Jivaro of South America associate the “roasted” with men and the “boiled” with women, which also correlates to the rather nomadic life outside of the village community (men) and women living a sedentary life in the village. The opposite is true for other societies, where roasting is connected to female lifestyles and boiling to male lifestyles, for example in certain Eastern European countries (see Lévi-Strauss 2008: 43).

Another example of symbolism attached to these categories is about class:

For example, boiling conserves entirely the meat and its juices, whereas roasting is accompanied by destruction and loss. One connotes economy, the other prodigality; the former is plebeian, the latter aristocratic (Lévi-Strauss 2008: 43).

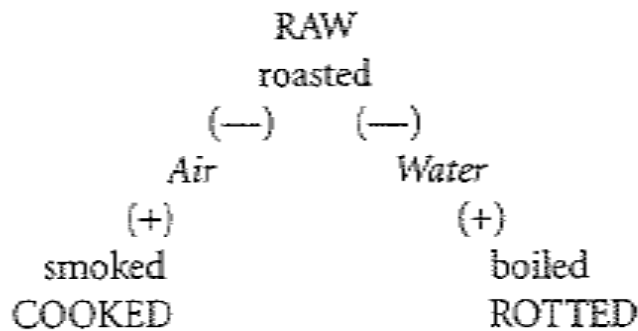
Similarly, to the way gender symbolizations can differ depending on society, the same is true for the category of “class”. While in some societies, “boiling” correlates with civilization and therefore higher status and “roasting” seems closer to nature, and therefore animalistic and symbolized with lower status, this is again reversed in other societies.

Lévi-Strauss, then, adds additional categories to the culinary triangle:

Within the basic culinary triangle formed by the categories of raw, cooked and rotted, we have, then, inscribed two terms which are situated: one, the roasted, in the vicinity of the raw; the other, the boiled, near the rotted. We are lacking a third term, illustrating the concrete form of cooking showing the greatest affinity to the abstract category of the cooked. This form seems to us to be smoking, which like roasting implies an unmediated operation (without receptacle and without water) but differs from roasting in that it is, like boiling, a slow form of cooking, both uniform and penetrating in depth (Lévi-Strauss 2008: 44).

Another dichotomy is added that relates to two ends of processing food: the opposition of “close” and “distant” (distance from fire), and “rapid” and slow”. In the case of “boiling”, the utensil needed is cared for and preserved, while in the case of smoking, the buccan (a wooden frame used by American Indians) is destroyed after its use. This brings Lévi-Strauss to use the next dichotomy of a “perishable” and a “durable” utensil.

Graphic: „Culinary Triangle“, as proposed by Lévi-Strauss (Lévi-Strauss 2008: 46).



Subsequently, Lévi-Strauss recurs to a paradox existing in his concept. At the beginning of the chapter he was referring to the “rotted” as the “elaboration of the raw by natural means”, and the boiling (and using utensils like pots) as a cultural method that is located in the triangle in close proximity to the “rotten”, which seems paradoxical. However, according to Lévi-Strauss, it is not contradictory that a cultural method can lead to a natural result:

To put it in other terms, what, philosophically, will be the value of the invention of pottery (and hence of culture) if the native’s system associates boiling and putrefaction, which is the condition that raw food cannot help but reach spontaneously in the state of nature? (Lévi-Strauss 2008: 45).

Another apparent paradox is about “smoking”, which is located near the abstract category “cooked” and therefore represents the most “cultural” mode of cooking. Ambiguities can also be found in the process of “roasting”:

Burned on one side and raw on the other, or grilled outside, raw within, the roasted incarnates the ambiguity of the raw and the cooked, of nature and culture, which the smoked and the boiled must illustrate in their turn for the structure to be coherent (ibid.).

While the ambiguity of the “roasted” as being located between “nature” and “culture” is a natural part of it, the ambiguity of “smoked” and “boiled” is not. It is culturally interpreted as such to become ambiguous; ergo it is only metaphorically ambiguous.

In the next chapter, the superstructure (ideology) of society is also in focus, but in contrast to the example just introduced, it is used to explain the cause of human behavior.

3.1.2. Food as “Meaning”

The second exemplary humanistic study of human foodways that I present in this thesis is concerned with the Jewish Pork taboo. Mary Douglas included this specific topic as part of her famous book “Purity and Danger” (Douglas 1969).

She thereby “analysed the human preoccupation with dirt and impurities as an indirect way of thinking about the boundaries of society and nature/culture divide, thus joining the structuralism of Lévi-Strauss with that of Radcliffe-Brown, so to speak” (Eriksen 2010: 24).

Both the origins in Structuralism and in Structural-functionalism are quite obvious when looking at her arguments. Douglas is one of two scholars of British Anthropology who left the strong sociological background behind and “fused the legacy of structural-functionalism with the study of symbols and meaning” (ibid.).

Similar to Lévi-Strauss, this study is also considered one of the classical foundations of the humanist study of human foodways, as it can be found in the respective section of the main anthropological collection about this topic:

Douglas applies structural analysis to the establishment of Jewish dietary rules as a means to develop self-control, distinction, and a sense of belonging based on the construction of holiness (Counihan / Van Esterik 2013: v).

Another reason to choose this classic humanistic study when addressing research about human foodways is because it was directly criticized and followed by an alternative theory about the same phenomenon by cultural materialist Marvin Harris (see Harris 1987b), which I will introduce in the following chapter.

Before going into detail about this specific example, it is necessary to explain Douglas’ assumptions and concepts. Douglas connects religious views to the question of social order and disorder, purity and dirt, pollution and taboo. She describes her view of “dirt” as follows:

As we know it, dirt is essentially disorder. There is no such thing as absolute dirt: it exists in the eye of the beholder. If we shun dirt, it is not because of craven fear, still less dread or holy terror. Nor do our ideas about disease account for the range of our behavior in cleaning or avoiding dirt. Dirt offends against order. Eliminating it is not a negative movement, but a positive effort to organize the environment (Douglas 1969: 2).

From this quote, a few of Douglas’ views become obvious. She assumes that categories of purity, dirt and disorder are existing in all societies. This universal claim might come from the structuralist notions of Lévi-Strauss. Things that are not in order appear dirty or abominable to people. While this pattern is universal, what is apparent in her quote is that these notions of hygiene and dirt have to be culturally relative. Since “dirt” is not absolute but relative, people from different societies or cultures consider different objects or activities to be dirty and impure. Rituals and commandments of purity and impurity exist to secure the given social order, to systematize experiences that are out of order, and to tie members of a group to their roles in society. Behavior or objects seen as dirty and impure are infringing on the relative order of

things. Douglas describes the act of “cleaning up” the dirt as a creative movement to restore the right order:

In chasing dirt, in papering, decorating, tidying we are not governed by anxiety to escape disease, but are positively re-ordering our environment, making it conform to an idea. There is nothing fearful or unreasoning in our dirt-avoidance: it is a creative movement, an attempt to relate form to function, to make unity of experience (Douglas 1969: 2).

At the center of this quote lies the “idea” which people organize themselves around. This works as a hint to the idealist theoretical approach of Douglas. While Douglas is concerned with different cultural meanings that are attached to the categories of “dirt”, “impurity” and so on, she does not ask the question of why these beliefs and notions of impurity and purity differ between societies and regions.

On a side note, a typical method of humanists that contrasts impersonal, scientific strategies is to share personal statements, which is inherent in the following quote:

I am personally rather tolerant of disorder. But I always remember how unrelaxed I felt in a particular bathroom which was kept spotlessly clean in so far as the removal of grime and grease was concerned (Douglas 1969: 2).

The social order of a society is maintained by its commands, rules and taboos, both concerning pure and impure activities and objects. In order to sustain the right order of things, in many societies a culturally specific (mostly religious) moral codex exists to sanction impure behavior and things. Another clue about Douglas’ research strategy comes from the following quote:

The native of any culture naturally thinks of himself as receiving passively his ideas of power and danger in the universe, discounting any minor modifications he himself may have contributed. In the same way we think of ourselves as passively receiving our native language and discount our responsibility for shifts in undergoes in our life time. The anthropologist falls into the same trap if he thinks of a culture he is studying as a long established pattern of values. In this sense I emphatically deny that a proliferation of ideas about purity and contagion implies a rigid mental outlook or rigid social institutions. The contrary may be true (Douglas 1969: 5).

While Douglas writes about the social order of things, with this quote she also tries to loosen up the determining factor of society, thereby strengthening the notion of a “free will” of people. She does not clarify it, but assumes the importance of an agency of individuals in society. Now that I have introduced the central concept and assumptions of Mary Douglas, we can deal with the topic of nutrition and the food taboo in the Middle East.

First off, Douglas is dealing with alternative attempts of explaining the phenomenon. She criticizes materialist strategies, for example the ones that consider the pork taboo, to have emerged for medical reasons. While she sees a correlation between rituals connected to hygiene and actual practical (health) purposes, she criticizes materialists who consider it a causation:

Jewish and Islamic avoidance of pork is explained as due to the dangers of eating pig in hot climates. It is true that there can be a marvelous correspondence between the avoidance of contagious disease and ritual avoidance. The washings and separations which serve the one practical purpose may be apt to express religious themes at the time. (...) But it is one thing to point out the side benefits of ritual actions, and another thing to be content with using the by-products as a sufficient explanation (Douglas 1969: 29).

Douglas' idealist argument is implicit in this quote, since she does not view the rational benefit of certain behaviors as the reason for that very behavior, but rather as a random by-product of the actual important symbolic ritual.

She goes even further with her humanist statement by emphasizing the importance of individual and idealist acts in determining societies, also supporting the notion of "great men": "Even if some of Moses's dietary rules were hygienically beneficial it is a pity to treat him as an enlightened public health administrator, rather than a spiritual leader." (Douglas 1969: 29)

She also responds to theories about rituals of Judaism being established primarily in opposition to heathen rituals and practices, as it was stated by Maimonides (see Douglas 1969: 47-49). She then questions why some practices differ between Judaism and heathens while others (like sacrifice rituals) do not. A contrasting theory sees rituals and dietary rules as being absorbed from neighboring societies, which Douglas also disagrees with. According to Douglas, there is only one way to approach this food taboo:

Whatever the historical evidence for this adoption of a foreign element into Judaism, we shall see that there was in the patterning of their culture a pre-formed compatibility between this particular abomination and the general principles on which their universe was constructed. Any interpretations will fail which take the Do-nots of the Old Testament in piecemeal fashion. The only sound approach is to forget hygiene, aesthetics, morals and instinctive revulsion, even to forget the Cananites and the Zoroastrian Magi, and start with the texts (Douglas 1969: 49).

Douglas in this way states where she sees the primary determining factor of Jewish society: in the religious texts. The texts represent ideological causation, and while in this case this ideology is religion, in other humanist theories the reasoning of superstructural kind can relate to other parts of the spectrum of ideologies, norms, values, etc. This is archetypal for an idealist argument, since men-made ideology is seen as the prime determining factor of human behavior. When it comes to dietary rules and food taboos for the Jewish population, the ideological reasoning for it can be found in Deuteronomy and Leviticus. The most important and relevant passage can be seen here:

Leviticus Xi: "2. These are the living things which you may eat among all the beasts that are on the earth. 3. Whatever parts the hoof and is cloven-footed and chews the cud, among the animals you may eat. 4. Nevertheless among those that chew the cud or part the hoof, you shall not eat these: The Camel, because it chews the cud but does not part the hoof, is unclean to you. 5. And the rock badger, because it chews the cud but does not part the hoof,

is unclean to you. 7. And the swine, because it parts the hoof and is cloven-footed but does not chew the cud, is unclean to you. 8. Of the flesh you shall not eat, and their carcasses you shall not touch; they are unclean to you.” (Driver/White 1898: 18-19)

This list is going on and all kinds of animals, from birds to sea animals, are commanded to be avoided or suggested to be eaten. Many of the forbidden animals are not consumed anywhere else in the world, which perhaps just makes them an unpopular food choice in general. In contrast, especially the pig is a major part of diets of different societies around the world. This is the reason why this specific food taboo is so interesting. But why do Jewish people follow these dietary orders? Douglas goes back to her concept of the social order of things, and how religious rituals of purity and impurity support the existing order:

We have now laid a good basis for approaching the laws about clean and unclean meats. To be holy is to be whole, to be one; holiness is unity, integrity, perfection of the individual and of the kind. The dietary rules merely develop the metaphor of holiness on the same lines (Douglas 1969: 54).

When people act according to the culturally determined social order, they act congruent to their beliefs and conform to holiness: “Developing the idea of holiness as order, not confusion, this list upholds rectitude and straight-dealing as holy, and contradiction and double-dealing as against holiness” (Douglas 1969: 53).

If people act according to their religious views, the social ties and order are strengthened, and prosperity is expected. If they do not act according to their ideology and beliefs, they have to expect the universe to perish them:

God’s work through the blessing is essentially to create order, through which men’s affairs prosper. Fertility of women, livestock and fields is promised as a result of the blessing and this is to be obtained by keeping covenant with God and observing all His precepts and ceremonies (Douglas 1969: 50).

Douglas’ final statement about this specific food taboo confirms her idealist theoretical principle:

If the proposed interpretation of the forbidden animals is correct, the dietary laws would have been like signs which at every turn inspired meditation on the oneness, purity and completeness of God. By rules of avoidance holiness was given a physical expression in every encounter with the animal kingdom and at every meal. Observance of the dietary rules would thus have been a meaningful part of the great liturgical act of recognition and worship which culminated in the sacrifice in the Temple (Douglas 1996: 57).

An alternative, cultural materialist explanation about this very food taboo will be presented in the later chapter. Before that, one more humanist example is going to be introduced, a more recent theory about the morality of human foodways.

3.1.3. Food of “Morals”

As previously mentioned, the last decades have brought an increase in humanist food studies about ethical foodways. These studies can go many ways, whether they are about sustainable food initiatives (see Giles 2013) or about the provenance of food (see Watson 2013). The discourse is less about the nutritional value of food or human food habits, but about questions of whether food is produced organically, by whom it is produced, where it is produced, if fair compensation is ensured, etc. Often these studies are focusing on ethical concerns about foodways and also have the claim or aspiration to bring change to self-diagnosed problems. This is the case in the following example (see Joy 2011). As it was stated before, nowadays little to none humanist theories are being proposed about universal human behavior, traits or habits. Especially in cultural and social anthropology, but also in other disciplines, the development of the postmodern turn changed the disciplines to even greater extent to become less fond of scientific criteria like objectivity. Even more so, most recent humanist studies are rather descriptive and do not even try to explain human behavior anymore.

One exception to this trend can be found in the book “Why we love dogs, eat pigs and wear cows – an introduction to carnism” (Joy 2011) and related articles (Joy 2002; Joy 2005) from the (socio-)psychologist Melanie Joy. Her book starts with a hypothetical scenario of a usual dinner setting (Joy 2011: 11-12) in the United States, where beef is supposed to be served. Then the people around the table are informed that they just ate golden retriever instead of beef. Emotions and reactions of people around the dinner table would turn instantly to a feeling of disgust. Then she asks:

What’s going on here? Why is it that certain foods cause such emotional reactions? (...) Why is it that we have such radically different reactions to beef and dog meat? (...) We react differently to different types of meat not because there is a physical difference between them, but because our perception of them is different (Joy 2011: 12).

Joy acknowledges certain biological preferences (for example sweet flavors), but according to her view, most of our tastes and our perception is acquired through culture, and not as rational as we think:

In other words, within the broad repertoire of the human palate, we like the foods we’ve learned we’re supposed to like. Food, particularly animal food, is highly symbolic, and it is this symbolism, coupled with and reinforced by tradition, that is largely responsible for our food preferences (Joy 2011: 16).

Inherent in this quote is an argument against material determinism and for an idealist understanding of the human species, since our perception can be understood as part of our mind. Culture thereby seems as an arbitrary teacher of irrational food decision-making.

In Joy's understanding, food-decision-making is primarily a question of ideology, ergo the superstructure. In the case of "veganism", the wider public does in fact agree with her and considers it an ideology. In contrast, meat eating is seen as a natural, rational eating habit. Joy suggests that eating meat is an ideology as well, and she proposes to call it "carnism" (see Joy 2011: 28). Both "carnism" and "veganism" are ideologies that restrict or do not restrict certain foods. It follows that our food habits are not considered natural but entirely cultural, ergo it is learnt behavior.

Joy is by far not the only researcher to address the human phenomenon of both having a positive attitude towards animals and consuming meat at the same time (see Loughnan et al. 2014). In their article about the "Psychology of Eating Animals", they call this behavior the "meat paradox". Part of this paradox is the existing awareness of people that they adore animals and at the same time enjoy the taste of meat. They know it comes from animals, that slaughter is painful to them and also perceived emotionally disturbing for humans. While meat consumption has been on the rise since decades, so have expenses for pets. While values, experiences, etc. are subjective, they see a universal dilemma that meat-eating people have to face: "However, it highlights the moral dilemma involved in eating animals, a dilemma that all people resolve" (Loughnan et al. 2014: 104). How do people cope with the paradox and dilemma of eating animals on the one hand and loving them as pets on the other? According to the authors,

there are a number of pathways through which people may adjust their perceptions of animals in ways that appear more consistent with their consumption of them. One putative pathway is that people change their perceptions to reduce negative affect associated with the act of meat eating (Loughnan et al. 2014: 106).

Joy's view is similar, but she is more specific about it. Humans learn to block their empathy to forget that they care about animals. The most important factor of the meat-eating system is psychic numbing it is "made up of a complex array of defenses and other mechanisms, mechanisms which are pervasive, powerful, and invisible and which operate on both social and psychological levels" (Joy 2011: 18).

This psychological process "numbs" our initial emotional response to an incident, distorts our perception of it, and disconnects and distances us from our original emotions and feelings. In other words, humans thereby learn "how to not feel" (ibid.).

The overcoming of the dilemma or the initial emotional response has different outcomes in human attitude and behavior towards the issue. The easiest way to "eliminate moral tension associated with eating animals is to not eat them" (Loughnan et al. 2014: 104), ergo following a vegetarian diet.

Following Joy's logic, our values and behavior are incongruent (see Joy 2011: 18). To overcome the moral discomfort, we can either

change our values to match our behaviors, we can change our behaviors to match our values or we can change our perception of our behaviors so that they appear to match our values. It is around the third option that our schema of meat is shaped (ibid.).

People following a vegan diet for moral reasons would fall into the second category. Meat-eaters would have to be "psychological acrobatics" (ibid.):

Meat eaters tend to care less about animal welfare, to value masculinity, and to accept social hierarchy and inequality. They tend to reduce mind attribution to animals and see them as dissimilar to humans. In preparation for eating meat, and after it, they attribute diminished mental capacities to animals. These factors combine to reduce animals' moral standing, making their passage from farm to fork less troubling (Loughnan et al. 2014: 106).

Inherent in Joy's statements is the assumption that humans have a naturally positive, caring and loving attitude towards animals. To be able to kill animals, humans need to be conditioned to think and act not in conformity with their nature (through the ideology of carnism):

The evidence strongly suggests that our lack of disgust is largely, if not entirely, learned. We aren't born with our schemas; they are constructed. Our schemas have evolved out of a highly structured belief-system. The system dictates which animals are edible, and it enables us to consume them by protecting us from feeling any emotional or psychological discomfort when doing so. The system teaches us how to not feel. The most obvious feeling we lose is disgust, yet beneath our disgust lies an emotion much more integral to our sense of self: our empathy (Joy 2011: 17-18).

Once again, humanistic way of thinking is exemplified well in this quote. We unwillingly learn to behave in irrational ways but can change that very behavior if we are made aware of it being learnt rather than rational. Joy does never state that humans are biologically determined to eat plants, but implicit in her theory is that humans are naturally determined to avoid meat and killing animals. According to Joy's logics, humans must have learnt historically to choose meat over a plant-based diet. The belief-system of "carnism" taught humans to numb their empathic feelings towards animals and eating meat became natural, normal and necessary, which Joy calls the "three N's of justification" (see Joy 2011: 96).

That eating meat is normal, necessary and natural are, according to her, pure myths. These terms have also been used in all exploitative systems from slavery to the Holocaust. It is the "mythmakers" that are responsible for humans not to see the truth in front of their eyes and to live contrary to their values (see Joy 2011: 96-101). They never challenge the notion of certain behaviors like meat eating to be something other than natural, necessary and normal. The mythmakers are all institutions of a society (their representatives), education, politics, religion, medicine and media. Doctors, teachers, pastors, etc. will not question the Status Quo; they

support it and give it professional credibility. Joy adds that some of these representatives are acting this way being unaware, while others are aware of supporting an ideology. Joy also refers to the famous Milgram experiment about authority, basically to question whether professionals should be trusted in general. Continuing her thoughts about the three Ns of justification, she states that customs and traditions, the ideology we were told from generation to generation, is usually not questioned but taken for granted and seen as normal:

When we view the tenets of an ideology as normal, it means the ideology has become normalized, and its tenets social norms. Social norms aren't merely descriptive – describing how the majority of people behave – they are also prescriptive, dictating how we ought to behave. Norms are socially constructed. (...) they are created and maintained by people, and they serve to keep us in line so the system remains intact (Joy 2011: 105).

Later on, Joy deals more closely with the aspect of meat-eating being “natural” (see Joy 2011: 107-108). She acknowledges that humans have been eating meat since at least two million years, but many times have also lived primarily vegetarian. She does not go into detail whether humans lived that way for practical, environmental or ideological reasons. Meat eating is then compared to murder, rape and cannibalism, aspects of human life that, following this logic, also should be seen as “natural”. Certain human behaviors and perceptions (whether about Jews, Women, Animals) were in the past being naturalized by scientists (biologically and historically) and religions, to legitimize immoral behavior.

Finally, yet importantly, Joy deals with the question if eating meat is actually “necessary” (see Joy 2011: 109-111). She states that humans do not need meat in order to survive, and that it is also a myth that eating meat is healthy. This fact is being distorted in order to keep the system going.

Joy declares that humans do not have a “free choice” and addresses the “myth of free will” (see Joy 2011: 112-114) when she refers to our “narrowly constructed set of options that have been chosen for” us. Since most humans were raised with the notion of meat eating being normal, necessary and natural, they learnt to accept the ideology of carnism, never doubted their perceptions, behavior and the inherent contradictions. Humans are socialized this way and do not have a “free will” to decide whether it is good or bad to eat an animal. But there is an exception:

Free will requires consciousness, and our pervasive and deep-seated patterns of thought are unconscious; they are outside of our awareness and therefore outside of our control. (...) We must step outside the system to find our lost empathy and make choices that reflect what we truly feel and believe, rather than what we've been taught to feel and believe (Joy 2011: 113).

A strong humanist aspect of Joy's work is her aspiration for change in human behavior. This claim comes in a long tradition in social studies of intending political or social change connected to research (see Mead 1928). The proposed theory supports bringing change to a specific diagnosed problem. Joy's research findings are supposed to make humans aware that their "carnistic" lifestyle is an ideology rather than a natural, normal or necessary behavior. Her agenda promotes a plant-based diet that excludes any forms of meat, fish, dairy products like milk, eggs, etc. as the healthiest and morally "best" diet.

Considering Joy's universal approach, it would be superficial and wrong only to include western societies. She tries to include Non-Western (and past) societies, for example "tribal hunters" in respect to the question if "numbing" exists for them as well, or if it is supposed to be a western phenomenon (see Joy 2011: 19-20). She admits that she cannot guarantee that this psychological process is true for all societies that ever existed, but she suggests that people who need meat to survive need less effort to numb themselves than people nowadays. This is explained with the differing method of slaughtering animals, which in western factories goes beyond just killing, but is considered a cruelty. People who ate meat for pure survival did not have the "luxury of reflecting on the ethics of their choices" (Joy 2011: 20). This statement is weakened because Joy follows it up by emphasizing that even in societies where meat was a necessity, people avoided eating specific animals and tried to compensate the killing of animals with special rituals (purification ceremonies, sacrifices, etc.). Additionally, she mentions that people have avoided the consumption of meat for ethical reasons since 600 BC (not being specific about what societies she is referring to), and she interprets this as a "long-standing psychological and moral tension around meat eating" (ibid.).

3.2. Cultural Materialist Explanations of human foodways

Humanist epistemology and idealist principles have been thoroughly exemplified within the last three chapters. The alternative research strategy of studying human behavior scientifically will be under examination in the next three chapters.

While Science-oriented research about humans has gained attention in anthropology and other disciplines through the likes of Leslie White and Marvin Harris in the second half of the 20th century, humanist and idealist researches about human social behavior still outnumber scientific researches. While theories have been postulated about phenomena like state development, warfare and human foodways, the scientific research about human social behavior is by far not oversaturated. Scientific theories are trying to explain human behavior and phenomena in terms of cause and effect.

Marvin Harris devoted an entire book to human foodways, both for academia (1987a) as well as for the public (1987b). Similar to other anthropologists, he stresses the importance of nutrition for human behavior, even in relation to the evolution of our species:

It seems likely, for example, that hunting for vertebrates, increased meat consumption, and expanded tool use were implicated in the evolutionary processes that led to the expansion and reorganization of the australopithecine brain and to the development of Homo's unique capacities of consciousness and semantic universality (Harris 1987a: 2).

Once our descendants developed the ability of the symbolic faculty (see White 1949), behavior became something that is not primarily emerging out of our biological capacities, but through socialization and learning processes. "Increasingly, behavior associated with the procurement, distribution, and consumption of food came, like the rest of human behavior, to be propagated through learning rather than genetic replication" (Harris 1987a: 2).

While the cultural level of learning behavior has appeared with the Homo sapiens, the biological level, its determining factor and limitations, shall not be excluded when researching human behavior scientifically.

Humans are biologically omnivores, which means that they are neither restricted to a plant-based nor to a meat-based diet. They can eat "everything". Of course, certain things cannot be eaten by humans, because they are either toxic, non-edible or incompatible with the human digestion. While humans can eat a wide variety of plants, there is not a single human society that can digest loads of cellulose. Despite a few exceptions like sprouts, humans therefore do not eat grass, leaves or wood (see Harris 1987b: 13).

Except for these biological limitations, human food choices vary across the planet. The reasons for that, according to Cultural Materialists, are not primarily religious beliefs (superstructure) or random, irrational choices, but most importantly external determining factors and the "infrastructure" of society.

Biologist reductionist strategies have the problem to exclude "culture" when researching human behavior. They are trying to explain the human condition exclusively with biological traits like instinct or psychological modules that supposedly determine human behavior. Cultural materialists would argue that biopsychological instincts and preferences can indeed explain why humans usually do not eat toxic materials or foods that are problematic for their digestion. Biological reasoning is also suitable when considering the reactions humans have to different tastes (sweet, sour, salty, etc.). Biology cannot explain, however, why societies developed such

different food preferences and different cuisines, and why they developed aversions against certainly edible foods, ergo created “food taboos”.

In the past century, a variety of humanist theories about human food behavior have been postulated. As shown in the previous chapter, these theories are all surrounded by the notion that decision-making about food revolves around concepts of thought, ideas, identity, etc., ergo mental, psychological or symbolic factors. Humanist explanations, as the one from Mary Douglas, try to grasp the emic perspective, basically the mental perception or interpretation of reality of the people in focus.

Cultural materialists like Ross and Harris would argue that these concepts do in fact exist in reality but only in the sphere of the superstructure, and in the logic of Cultural Materialism all kinds of ideological reasoning was determined from the infrastructure and structure of a society beforehand.

Cultural Materialists approach human foodways as follows: “Beyond the separation of emics from etics, materialist approaches to foodways start with the assumption that puzzling dietary habits are the outcome of determinative processes in which biopsychological, technological, economic, demographic, and environmental factors predominate” (Harris 1987a: 5).

Most shifts in human diet and foodways did not occur because of organic evolution, nor through random mental decision-making. They happened because of major changes of the infrastructure (for example the modes of production) and the determinative processes mentioned in the quote above (see Harris 1987a: 2).

The executors of these changes or shifts are certainly human beings and social groups that had to react to environmental conditions like existing resources (animals and plants), climate, the size of their group and other factors. Human decision-making in terms of nutrition is a process of balancing cost and benefit of a specific method or food, not just for the individual self but for the whole group (see Harris 1987b: 15-16).

What this means is that even the most nutritious animal would not play an important role of a group’s diet if it were near to impossible to hunt it. In the case of the mammoth, for example, hunters had to invest a lot more time than when hunting smaller mammals, but in the end it was mostly worth it though because of the size of the mammoth. Humans might therefore prefer less nutritious food if it generally can feed more people for less energy invested in producing the food. Nutritious foods, filled with proteins, vitamins, etc. are generally preferred by humans to less nutritious foods. Since this is not the only factor in decision-making, the diets sometimes

seem irrationally chosen. Cultural materialists try to find all the variables necessary to figure out why and how certain food habits were developed.

Variation in what people eat reflects substantive variation in status and power and characterizes societies that are internally stratified into rich and poor, sick and healthy, developed and underdeveloped, overfed and undernourished. (...) It is a necessary requisite of the perspective I advocate that diet be viewed within a historically formulated understanding of any given social system, as an evolutionary product of environmental conditions and of the basic forces, especially the social institutions and social relations, that effectively determine their use (Ross 1987: 8).

When writing about food decision-making, this notion has to be brought away from modern-life thinking about foodways. This is not about whether one chooses a strawberry or a pineapple yoghurt in the supermarket. This is foremost about how societies and social groups decide how to feed themselves. This becomes especially interesting when looking at the past or beyond modern city-life to places and regions where people mainly produce their own food. One does not have to look far back, because the way food production and consumption are separated in western society nowadays is a very new phenomenon, especially when looking at the whole history of our species.

In the following subchapters, I am giving an overview of how cultural materialists approach human food behavior in practice and use the principles introduced in the second chapter, especially the theoretical principle of infrastructural determinism to build theories about human behavior in relation to foodways, food habits and taboos.

“Food taboos” are especially interesting to look at, for the cultural materialist explanation has existing counterparts in the humanist realm that try to explain the very same phenomena. Before I introduce these specific food taboos, I want to show how Cultural Materialism also works as a universal science that can explain universal phenomena and shifts in subsistence, not only specific food taboos.

3.2.1. “The abominable pig”

I have already introduced the pork taboo of the Middle East and the connected humanist explanation by Mary Douglas (1969) in a former chapter. A cultural materialist explanation by Marvin Harris (1987b) exists for the very same taboo, which makes this example even more interesting.

Harris admits at the beginning of his chapter (see Harris 1987: 67-68) about the pig taboo in the Middle East that this specific taboo does in fact appear irrational: “Of all domesticated

mammals, pigs possess the greatest potential for swiftly and efficiently changing plants into flesh” (ibid.).

Why did the ancient Jews (and Muslims) nevertheless decide to avoid pigs at all costs?

Both in the Tanakh and in the Koran there are explicit mentions of a pig taboo. Pigs are supposed to be impure and dirty; therefore, it is not just forbidden to eat them, but also to touch them. If one were to ask Jewish or Muslim people about this avoidance, the emic reasoning would refer either to the religious taboo itself or to the perceived disgusting behavior of pigs, which supposedly serves as a rational reason to avoid pork (see Harris 1987b: 68). To Cultural Materialism, both religion and values belong to the superstructure. That would not necessarily make the former statements untrue, but in order to find cause and effect of human behavior primacy has to be given to the infrastructure and structure of a society. Before considering these parts of a society, the prevalent ideological reasoning that can be found in emic statements needs further examination.

Do pigs actually have a “dirty” lifestyle, wallow in and eat their own feces and fellow pigs? The supposedly “dirty” behavior is not natural to a pig in its normal habitat or under right living conditions. Rather, rough conditions produced by human owners cause pigs to behave in “extreme” ways. They prefer to eat nuts, roots or grains and not their own excrements. In addition, other animals that are not tabooed in the Middle East sometimes consume human feces if it is offered to them (ibid.).

What in the ancient Middle East was a vague notion of pigs being dirty was followed by medical “evidence” in the 19th century (see Harris 1987b: 69). Pork was supposed to be unhealthy, because the infectious disease of trichinosis was found to be directly linked to the consumption of pork. Soon it became clear that all kinds of meats could cause diseases if not properly prepared and cooked.

In the holy book of Leviticus (Leviticus 11:1), one can not only find a prescription on pig meat, but also a recommendation which animals shall be eaten by the Jewish people: “Whatever parts the hoof and is cloven footed and chews the cud among animals, you may eat” (Driver/White 1898).

Among the domesticated animals of the Ancient Jewish people, the three main nutritional sources were cud-chewers: cows, sheep and goats. But why were these ruminants preferred over animals like pigs which were not cud-chewers?

A variety of factors apart from the effectiveness of turning plants into meat need to be considered to get the best results in optimization calculations, as they are of highest relevance in cultural materialist studies of foodways. Why were ruminants the better choice?

By raising animals that could ‘chew the cud’, the Israelites and their neighbors were able to obtain meat and milk without having to share with their livestock the crops destined for human consumption. (...) Rather than compete with humans for food, the ruminants further enhanced agricultural productivity by providing dung for fertilizer and traction for pulling plows. And they were also a source of fiber and felt for clothing, and of leather for shoes and harnesses” (Harris 1987b: 72-73).

While pigs are in fact effective and fast in transforming plants into meat, as it was mentioned in the beginning of the chapter, the kind of resources they rely on do in fact also matter. Pigs nourished with corn, potatoes, soy beans, etc. usually gain lots of weight in a short timeframe, the same is not true when fed with grass, hay and leaves. Of course, as omnivores, they could also eat plants with cellulose, but in contrast to ruminants, they would lose weight doing that. Additional disadvantages about swineherding in the Middle East are the environment and the climate of this specific region (see Harris 1987b: 73-74). The ancestors of pigs used to live in places with plenty of water, shade and forests, while the ancestors of cattle, goats and sheep adapted to conditions similar to the ones in the Middle East today: “Everything about the pig’s body heat-regulating system is ill suited for life in the hot, sun-parched habitats which were the homelands of the children of Abraham” (Harris 1987b: 73).

Heat does not do well for pigs and perceived “dirty” behavior is directly related to that fact. To cultural materialists, it is a matter of cost and benefit calculations:

Raising pigs in the Middle East therefore was and still is a lot costlier than raising ruminants, because pigs must be provided with artificial shade, extra water for wallowing, and their diet must be supplemented with grains and other plant foods that humans themselves can eat. To offset all these liabilities pigs have less to offer by way of benefits than ruminants” (Harris 1987b: 74).

Since the Israelites were pastoral nomads, swineherding was out of question. Once they settled, the unsuitable nomadic lifestyle was overcome but the population nevertheless stuck with avoiding pigs. This happened not out of mere tradition, but because swineherding would not have been beneficial and effective for the population even in a sedentary lifestyle because of the climate (see Harris 1987b: 74-75).

A circumstance seems to speak against Harris’ theory (see Harris 1987b: 75-76): bones of pigs were found in the Middle East, so it could be argued that at one time in history pigs were raised in this region despite the climate. Nevertheless, the amounts of pigs in this region was never very high, and it also decreased over time. The reason for the existence, but low and decreasing number of pigs lies in the change of the environment. In the early Neolithic period more forests existed in the Middle East, which offered an ecological niche for pigs, but with the increase of the human population and deforestation, erosion and desertification connected with it, the

suitable habitat for pigs was destroyed. Once the habitat changed, raising pigs became a danger to agriculture. This should explain the negative reputation of pigs in the Middle East.

Despite the general environmental conditions of this region, some micro-habitats of swampland or hillside forests exist (see Harris 1987b: 77). Technically raising pigs would have been possible there. But this possibility actually makes installing a taboo reasonable. If it were not possible to raise pigs at all, a taboo of this practice would not make sense: “As the history of Hindu cow protections shows, religions gain strength when they help people make decisions which are in accord with preexisting useful practices, but which are not so completely self-evident as to preclude doubts and temptations” (ibid.).

A system of rules (superstructure) that is beneficial to society was constructed based on infrastructural conditions, as well as cost and benefit evaluations:

If the Levite priests were trying to rationalize and codify dietary laws, most of which had a basis in preexisting popular belief and practice, they needed a taxonomic principle which connected the existing patterns of preference and avoidance into a comprehensive cognitive and theological system” (Harris 1987b: 80).

All other vertebrate land animals apart from pigs that do not chew the cud, including the horse, cats, dogs, reptiles etc., are forbidden in Leviticus. Three exceptions exist to the rule of eating ruminants: Camels, hare and an animal called “shāphān” (see Harris 1987b: 78-79). Those shall not be eaten because they do not “part the hoof”. In contrast to the beliefs of the time, neither hare nor “shāphān” are actually chewing their cud. Also, they are wild animals which are difficult to hunt. The camel has as a similar digestion to cattle, sheep and goats, and remains the only real exception to the rule. The exception of the camel in the diet of the early Jewish population is reasonable though (see Harris 1987b: 79), since the camel has adapted specifically to the desert habitat and therefore is also able to serve humans (especially nomads) in the desert like no other animal. For the sedentary Jewish people it never served as a source of meat, but only as a means of transport. Therefore, it had to be tabooed as well.

Why were all other kinds of animals (like dogs, birds, snakes, etc.) forbidden to the Israelites? According to the logic of Cultural Materialism, for the same cost and benefit calculations (see Harris 1987b: 82-83). In contrast to goats, cattle and sheep, non-domesticated land animals would have been there to be hunted, which is a very time- and energy-consuming task. Other domesticated animals like dogs or cats did not offer enough protein to be an actual nutritional source. Carnivores generally will not rank high in cost and benefit calculations, since they usually do not offer lots of meat and they are also competitors to humans in their meat consumption.

To sum up, it can be said that Cultural Materialism acknowledges emic statements or written down religious commands, but it does not automatically accept these superstructural factors as the actual cause for human phenomena. From the etic point of view, the actual reasons for specific food habits can be found when looking at environmental conditions like available resources and climate, as well as infrastructural and structural factors like population size/density, available technology and by considering cost and benefit calculations of specific animals. As I have shown, these calculations are very complex. It is not enough to consider the nutritional value by itself only. It is necessary to figure out whether or not a specific animal is able, under proper conditions (climate, nutrition), to live, thrive and feed a society in the long term. It is also important to evaluate whether it takes lots of effort to raise these animals, and if they are able to support the society for non-nutritional reasons (for agriculture, clothing, etc.). The food taboos are connected to a whole nutritional, agricultural and social system that offers the best way for the population to survive. Ideologies like religions and related food taboos originate in the practice of the people and not the other way around.

Pigs have been consistently tabooed in the Middle East throughout times, peoples and religions, while being a popular part of the Western diet at the same time. This is another sign for it to be determined by specific environmental and infrastructural conditions.

3.2.2. “The sacred cow”

Another interesting “food taboo” can be found in India, where cows supposedly are not part of the Indian diet because of religious reasons (see Harris 1987b: 47-49). In contrast to the pork taboo in the Middle East, the cow is not perceived negatively (as dirty and impure), rather it is glorified and appreciated in Hindu religion and in the Indian population. The term “sacred cow” is therefore not that far-fetched. Also, in contrast to pigs in the Middle East, a massive number of cows actually do exist in India. When Harris wrote his book, 180 million cows of the breed “Bos Indicus” lived in India, more cows than anywhere else on the planet (see Harris 1987b: 48). About 25% to 50% of them are supposedly useless for Indian society, roaming fields and cities. When Harris originally published his book in 1985, more than 700 million people lived in India, in the year 2018 the population increased to over 1.3 billion people (see URL 2).

Considering the enormous population (making India the second largest country in terms of population after China) and the fact that at times it is challenging to feed the entire population with calories and proteins, this specific “food taboo” and the behavior of the Indian people seems irrational. This could serve as an argument for the notion of a “free will” of humans, and thereby support the humanist claims of superstructural (ideological) causes of human behavior.

In Hindu ideology, the sacredness of cows is connected to the doctrine of transmigration (see Harris 1987b: 49-50), where the stage of the cow is located right before the stage of humans. If, for example, a person kills a cow, his or her soul slips back right to the bottom of these stages. Various benefits are supposed to happen when practicing kindness towards cows.

The behavior of Indian people reflects their ideology:

Hindus venerate their cows (and bulls) as deities, keep them around the house, give them names, talk to them, deck them flowers and tassels, let them have the right of way on busy thoroughfares, and try to place them in animal shelters when they become sick or old and can no longer be cared for at home” (Harris 1987b: 48).

Moreover, this positive attitude towards cows is established in the Indian constitution:

The State shall endeavour to organise agriculture and animal husbandry on modern and scientific lines and shall, in particular, take steps for preserving and improving the breeds, and prohibiting the slaughter, of cows and calves and other milk and draught cattle” (URL 1: Indian constitution, 48: 23).

Despite the already existing taboo, “hindu holy men” and institutions have been trying to establish a complete prohibition of slaughtering cows in India (Harris 1987b: 47-48). There have been many turmoils and riots connected to the protection of Indian cows in recent Indian history.

Why are the Indian people so fond of cows and avoid eating their meat despite its nutritional value? Beef is rich in proteins and calories and could feed families more efficiently than other animals and plants. It seems obvious that only religious and ideological reasoning could explain this irrational behavior. The behavior of Indian people depicted so far does not imply any cost and benefit calculations involved in the process.

The emic perspective nevertheless falls short in explaining the actual cause of this phenomenon. Cultural materialists view decision-making in terms of nutrition as follows:

Preferred foods (good to eat) are foods that have a more favorable balance of practical benefits over costs than foods that are avoided (bad to eat). Even for an omnivore it makes sense not to eat everything that one can digest (Harris 1987b: 15).

This statement relates to a whole group or society, not just to an individual human. Consequently, not only nutritional benefits need to be considered, as we know from the previous example of the pork taboo in the Middle East.

To Cultural Materialism, the main factors determining human behavior are the material conditions of human life, with the primacy of infrastructure, a conjunction of “demographic, technological, ecological and economic factors that comprise the interface of a population with the physical world, a society’s mode of production and reproduction” (Ferguson 1995: 23).

In case of the Indian cow taboo, two major rational factors “saved” the cow from being part of the Indian diet, despite its nutritional value (see Harris 1987b: 66).

The cow taboo did not always exist in this region. In time of the Vedic society (1800-800 B.C.), cows were not protected but slaughtered by the religious caste (see Harris 1987b: 51). However, with change of the environment and its resources the behavior towards cows changed accordingly:

The period of lavish cattle slaughter and general beef eating came to an end when the Vedic chieftains could no longer keep large herds of cattle as a reserve of wealth. Population grew, forests shrank, grazing lands were put to the plow and the old semi-pastoralist way of life gave way to intensive farming and dairying (Harris 1987b: 52).

Cattle and Cows were still needed for other reasons but meat. Having beef as part of the diet became uneconomical and therefore non-sensical. In difficult times of wars, hunger, etc., Buddhism and other religions appeared that advocated not to kill animals at all. For hundreds of years, these religions gained support because they were in support of the poorer population and in the end introduced a better and more efficient way of securing subsistence for more people. Only when Hinduism “adopted the principle of non-killing – known today as ahimsa – and set themselves up as the protectors rather than the destroyers of cattle” (Harris 1987b: 55), they were able to become the prime religion of India.

Intensive farming and dairying are then the two main causes for the avoidance of eating beef. In case of Indian society, the cost and benefit calculations favors milk over meat: “(...) more people can be fed by limiting meat eating and by concentrating on dairying, growing wheat, millet, lentils, peas, and other plant foods” (Harris 1987b: 52).

Becoming a cow-loving society was a slow process (see Harris 1987b: 53). As long as it was possible to maintain eating beef, the higher castes remained doing it. For lower castes, it became too expensive earlier on.

Male cattle are not able to produce milk; nevertheless, they are kept alive as well. This is because they serve another important purpose that is linked to nutrition. The primarily vegetarian diet of Indians would not be possible without using cattle as assistants in agricultural work. This is specifically the case in India:

It is no accident that India is the home of hardy humpbacked zebu breeds which are world-renowned for their ability to render service as plow animals amid heat, drought, and other adverse conditions while consuming very small amounts of feed and fodder” (Harris 1987b: 56).

No other animal than the humpbacked zebu cattle could perform better under these conditions and thereby secure the subsistence of their owners (ibid.). Cattle is therefore more valuable alive than when ending up on people's plates.

The fact that Indian society consists of many small farmers rather than a few major producers of food (as in western society) is a reason why machines have not replaced cattle to plow the fields of the farmers, and why cattle remains to be valued in such high regard. Under the circumstances in India, it would not be effective and beneficial for small farmers to replace their cattle with a tractor, even if they could afford it (which is usually not the case). While there has been an increase of using tractors in Indian agriculture, cattle remained important, since it is more reliable and not as vulnerable to damage (see Harris 1987b: 57).

One more problem contrasts the view of optimization models that needs further clarification. Weak, sick or old cows, not able to give milk or birth, plow the fields, etc., are also kept alive and not eaten. The cows with less energy and lower yield of milk were, despite their diminished value, still valuable to the less wealthy families of lower castes (see Harris 1987b: 60). They are also weaker for a reason, because they can only be fed with waste, a little grass, etc., but it is still beneficial for poor people to keep a cow, even with little productive value. Interestingly, one can also find a very unusual mortality rate of male and female cows within different regions of India (see Harris 1987b: 59-60). These can be explained by selective support and neglect of a specific sex, depending on whether subsistence is rather relying on milk or crops. Nowadays there is another way of "getting rid" of unwanted or "useless" cows. Many Hindu people sell these cows to Muslim people, who have the "right" and monopoly to slaughter them. These cows either end up in other countries, or under a different name on the plates of Hindus:

To the beef-eating Tantrics, Moslems, Christians, and other non-Hindus, we must add the members of various untouchable castes who consume beef in the form of carrion. Millions of Indian cattle die each year from a combination of neglect and natural causes" (Harris 1987b: 60-61).

To summarize, when calculating costs and benefits of the cow as a draught and dairy animal, it receives better results and secures subsistence more efficiently than when using the cow primarily as a source of meat. The cause of the Indian food taboo therefore does not lie in the religious taboo or an irrational positive attitude towards cows, ergo in the superstructure. The positive attitude and religious taboo is rather the superstructural outcome of the infrastructural and structural conditions. Avoiding the cow in the diet of Indian people is beneficial to the whole society, and therefore people of higher and lower castes learnt to be in favor of protecting rather than killing its cows. This rational behavior is reflected in the structure of society

(organizations, state, institutions), and in the superstructure (cows valued highly by people, religion), which are sharing a positive attitude towards cows and cattle, both from the emic and etic perspective. This explanation is directly oppositional to the theory that the “free will” of the people shaped their behavior and Indian people glorify cows for no practical and rational reasons whatsoever.

3.2.3. Optimization models: Energy & other factors

In the previous two chapters, I have introduced two specific examples of dietary preferences or “food taboos”. The prominent cultural or religious explanation was followed by the cultural materialist explanation. By writing about these two examples, I was able to exemplify the main ingredients of the cultural materialist strategy. I have shown how Cultural Materialism tries to “confront and challenge the possibilities and limits of cultural explanation” (Ross 1987: 7). That was necessary because human foodways have been used too often to serve as evidence for a “free will” of humankind:

For it is precisely in the matter of dietary customs that the concept of culture has been most consistently involved to suggest that, at the heart of what seems to most material and practical of human affairs, there lies an ineluctable core of arbitrary, fortuitous, or irrational thought. The seemingly inexhaustible variety and range of human dietary patterns thus has been taken to represent quintessential evidence of the inexorable power of the human mind, through the device of culture, to transcend the constraints of material and historical circumstances (ibid.).

While cultural materialists therefore try to provide alternative and better causal explanations of these taboos, the strategy’s main aim and goal is to “to seek (and hopefully to formulate) generalizable and predictive principles” (ibid.) about human foodways and behavior in general. Principles and theories about human nutritional decision-making could be summarized as optimization or cost and benefit models. These models sometimes are misunderstood to represent optimal foodways. Harris clarifies this misunderstanding: „To say that a foodway represents an optimization of costs and benefits is not to say that it is an optimal foodway. Optimization is not the same as optimal (...)” (Harris 1987b: 235).

In this context, it needs to be added that optimization within society does not equate with equal optimization for every member of society (see Harris 1987b: 248).

Cost and benefit models are not as straightforward as one might think. A variety of nutritional and non-nutritional factors have to be considered when looking at how dietary patterns have evolved, been determined and changed over time. For example, the “optimal foraging theory” (see Winterhalder/Smith 1981) works best “where energy is the principal behavioral constraint”

(Ross 1987: 8). Since “no living human societies are immune to the additional constraints imposed by other human beings, which range from the relatively benign to the invasive” (ibid.), this theory is therefore primarily useful when looking at isolated societies. Alternatively, it needs to be considered as only one out of a variety of determining factors of human foodways. Optimal foraging theory would, for example, suggest the tapir to be ranked highest in the favorable diet of societies in the neotropical regions as Amazonia. It is the largest existing mammal in this region and, when hunted, “better” in terms of providing energy than other animals. But it is in actually a secure source of calories?

For that reason, foraging societies may be more readily analyzed with energy-based models. On the other hand, where horticulture is also a constituent of the economy, it not only induces a greater degree of sedentarism, but also provides more secure sources of calories (Ross 1987: 11).

An important factor to consider about cost and benefits models, especially in today’s world, is concerned with influences on foodways from outside forces and pressures: “(...) most pre-industrial peoples have, over the last few centuries, been incorporated in varying measure into an ever expanding market economy, a process that has influenced their customary behaviors – including diet (...)” (Ross 1987: 14).

What are the consequences? Such societies could be pressured into exploiting resources for the production of non-nutritional commodities for outsiders, for example fur or other kinds of clothing. This can lead to the adoption of animals into the dietary pattern that were previously avoided, but also to a vast decimation of that very species. That once again changes the dietary pattern of these societies (ibid.). Another western influence that brought change in food-related behavior of Amazonian people was the introduction of guns into this region. While acquired primarily for warfare, its use did not stop there: “The acquisition of such shotguns in turn encouraged a more dispersed pattern of smaller settlements (...) and a decline in communal hunting, a change that tended to discourage the pursuit of larger animals” (Ross 1987: 15).

While it is not certain and relative whether traditional or modern weapons are more effective for hunters in tropical regions, the introduction of western technology certainly brought “a level of risk into Amerindian hunting that in many instances has led to a significant contraction in the scope of hunting activities and, hence, in the range of contributions that hunting makes to the diet” (ibid.).

The impact of guns and other western influences have caused various different outcomes for these societies. I only introduced a few of them to exemplify the relevance of outside forces.

When writing about optimizations strategies of societies, the calculations of cost and benefit do not apply the same level to all members of these societies:

(...) summaries of average per capita intake disguise the fact that work effort, intake, or both are apportioned among the population according to such criteria as age and gender, with adult men being the typically favored group. (This generalization can probably be extended to most industrialized societies as well.) (Ross 1987: 18).

Ross writes about both the “withholding of food” from neonates (which could be regarded as “attenuated infanticide”) and the restriction of foods from adult females (when pregnant or lactating) (ibid.). The reasons are ambiguous, and the ramifications are complex and diverse, this behavior can nevertheless also be considered as part of cost and benefit calculations:

(...) such prohibitions often exist where resources are problematical, in which case the outcome of a new pregnancy or the survival of a new infant must be weighed against the well-being of older children and of the mother herself” (Ross 1987:19).

Variation in the diet of men and women can exist as well for other reasons in hunter-gatherer and horticulturalist societies. The separation of labor in hunting as the male monopoly and gathering as the female task resulted in man also consuming a higher amount of their catch (and therefore more proteins) while away from home, while women tended to consume the foods from gathering or horticultural tasks (see Ross 1987: 20).

So far, in this chapter I have focused on hunter and gatherer-, as well as horticulturalist societies. Despite their differences, in societies depending on animal domestication, “(...) the valuation of certain animals as food varied according to various material factors that affected the costs involved in obtaining them, relative to alternative resources” (Ross 1987: 23).

Animal domestication and related dietary patterns are heavily influenced by the biomorphological characteristics of animals themselves. From the previous two chapters it should be clear that because of this logic, for example, pigs are not raised in the Middle East: “Thus, in Europe the distribution of such animals as pigs, cattle, and sheep has long depended upon their different feeding habits and needs – and upon the climatic conditions that favored them” (Ross 1987: 24).

Cultural materialist explanations about foodways and cost-benefit models that exist in settings and societies where securing subsistence defines the daily life of the people have been in focus so far. Nevertheless, how do optimization theories and cost/benefit models hold up in today’s western, capitalist societies?

While affluence has made it unnecessary for most developed countries to weigh the costs and benefits of starving adults versus starving children, it has certainly not diminished the importance of cost-benefit reckoning in the determination of what we eat (Harris 1987b: 247-248).

The production and consumption of food looks a lot different today from for the most part of our existence as a species. Most people in Western societies are not concerned with the production of food in their daily lives anymore. Otherwise, cost and benefit calculations have not become less important in Western societies:

If anything, with the rise of transnational corporations that produce and sell food on the world market, our foodways are being constrained by an ever more precise, but one-sided form of cost-benefit reckoning. To an increasing extent what is good to eat is what is good to sell (Harris 1987b: 248).

Multi-national corporations that produce food are concerned, perhaps even more so than local farmers in smaller societies, with strict economic cost and benefit calculations. The producers and suppliers of food are constantly trying to make the process as efficient and productive as possible.

To come back to the variation of diet on gender lines, an unequal distribution is not only part of hunter-gatherer or horticulturalist societies:

(...) the origins of such dietary divergence may lie deep in human prehistory, but such degrees of subordination of women's diet to the prerogatives of male consumption seem to have emerged largely with the evolution of ranked societies, as a woman's status came to depend on that of her husband or other male kin. (...) This trend reaches its height in class societies, particularly in the case of modern industrial capitalism, with the 'structural separation of the public economy of capitalism and the private economy of the home (Ross 1987: 22).

Since nowadays there is an abundance of food, and it can be obtained without high efforts of energy, there is a tendency in Western societies that the cost/benefit calculations of its citizens tend to over-benefit in terms of calories. Human bodies are genetically not determined to resist calories and food, their appetite reminds them to eat in order to survive: "We now realize that the "on" switches of human appetite are far more sensitive than the "off" switches. This genetic defect is a standing invitation to the food industry to overnourish its customers" (Harris 1987b: 248).

While hunger is rare in such a society, other and new problems appear, for example diseases connected to obesity, cardiovascular disorders, etc. There is also an industry supporting this side of westerners' foodways, from a vast number of dieting books to health clubs, gyms, etc. If we consider how the problems connected with overabundance and overeating did not become outdated once people realized their lifestyle harmed their bodies, it shows that the biology of the human body and external determining factors are strong in influencing our behaviors.

Human foodways are always connected to cost/benefit calculations, but one has to consider not only the cost/benefit calculations of individuals, but rather from whole systems – corporations, the food industry, the farmers, whole countries and societies.

4. Humanism vs. Science

If we take a look at the two research strategies I introduced in this thesis, the differences between them should be obvious by now. I would like to pose the question: which one does a better job at explaining human behavior and phenomena? This question could be considered problematic, because many humanists are not even concerned with “explaining human behavior”. While a scientist or cultural materialist should always be interested in explaining human behavior in the widest possible sense in terms of cause and effect, many humanists tend to focus and particularize specific regions or specific phenomena, and rather than explaining them, the goal is to describe them. Also, in the last forty years, interpretative, symbolic and postmodern strategies stopped trying to build theories that account for human behavior. In these cases, it is hard to argue which strategy does a better job at explaining human phenomena, since only one research strategy actually tries:

The logical errors and immoral implications of interpretative anthropology stem from the paradigms’s failure to embrace and apply the fundamental principles of rational inquiry embodied in the scientific approach to knowledge. It should be remembered, however, that science is not a royal road to truth, and even the consistent application of the scientific method cannot guarantee the production of full and certain knowledge. (Science, as we have seen, claims provisional certainty rather than absolute certainty.) As a result, even those anthropological paradigms that do attempt to adhere consistently to the principles of scientific inquiry cannot always claim complete success in the pursuit of precise and reliable knowledge (Lett 1997: 108-109).

In some cases, especially in earlier times, humanist strategies have been used to explain and interpret human behavior or the human condition in general. The main humanist examples presented in this thesis try to give such explanations of human foodways. That is the reason why the comparison of explanations from the scientific and the humanistic strategy is possible and legitimate within this framework. In case of the Jewish pork taboo, it is possible to compare both explanations side by side. As for the other humanist examples, I am going to criticize them on the basis of scientific, and more specifically with cultural materialist logic.

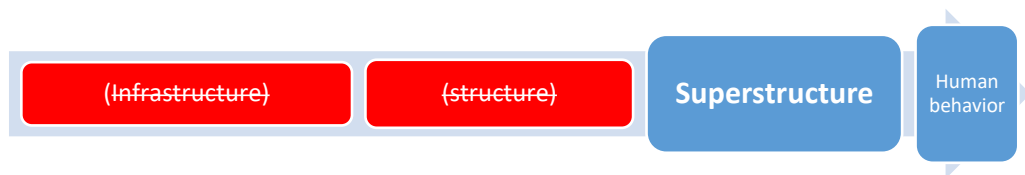
4.1. A confrontation of strategies

Let us start the confrontation of the humanist vs. scientific strategies with the humanist strategy of structuralism: “(...) natural species are chosen not because they are ‘good to eat’ but because they are ‘good to think’” (Lévi-Strauss 1963: 89).

As introduced, it differs from many other humanist strategies because of its focus on universal predetermined patterns of mind that dictate human behavior, rather than on particularistic or relativistic emic accounts of specific societies. Lévi-Strauss’s “culinary triangle” (2008) is not

supposed to describe the uniqueness of a specific “culture” in a specific timeframe. Concepts like the “culinary triangle” are claiming to be universal and applicable to all societies. Ethnographic data is gathered to prove the concepts of binary thinking, or in the specific case of this thesis, “the culinary triangle”. Because of its deductive way of researching and its attempt to explain universal behavior, this strategy seems more scientific than other humanist schools: “Lévi-Strauss, at least, maintained the image that he was a scientist, in the form of a comparative ethnologist explaining comparative data with reference to a broad, cross-cultural theory of meaning” (Johnson 1995: 12).

What makes Lévi-Strauss humanistic, after all, is his focus on human mind and thinking, rather than including any material factors in his evaluation of human behavior. Harris calls Structuralism the “most important surviving European representative of the cultural idealist tradition” (Harris 1980: 165) and adds that the structure in this strategy “refers exclusively to the mental superstructure” (ibid). Lévi-Strauss and other structuralists supposedly accept the primacy of the infrastructure, but are not concerned with it and see it as the task of other disciplines to deal with it (see Harris 1980: 165-166). As exemplified in the following graphic, Lévi-Strauss uses an idealist theoretical principle, he explains human behavior solely with the superstructure:



To Lévi-Strauss and colleagues like Ino Rossi, ethnology should be concerned with “the psychological superstructure of sociocultural systems”, which directly refers to their primacy of studying the human mind and the importance of thoughts and ideas (see Harris 1980: 166). Other than this aspect of non-scientific ways of researching, Lévi-Strauss is guilty of using empirical data inaccurately and non-systematically, so that they fit better to his own subjective interpretations:

Sometimes his analyses are not convincing to the scientific observer because he appears to draw conclusions that are not at all warranted by the data. In such cases ‘evidence’ is no more than a listing of examples that appear to support the theory, and the ‘theory’ is no more than an ad hoc, highly personal, or idiosyncratic interpretation of those examples. We have the impression of a gifted mind working with a set of very loose and vague ideas about the world, and playing with this example and that until a picture aesthetically pleasing to the gifted mind, emerges (Johnson 1995: 11).

These accusations seem legitimate when looking at Marvin Harris’ response to Lévi-Strauss’s study (1972) of myths of the Heiltsuk first nation of British Columbia (Harris 1980: 202-215).

This example shows how certain elements, considered facts by Lévi-Strauss, are actually non-factual, and how subjective interpretations of non-factual knowledge leads to myth-making, rather than explaining anything about human behavior.

Lévi-Strauss's theoretical strategy of explaining human behavior originating in the mind of humans, and to be explained by binary thought patterns, can ultimately not come up with any explanations for the similarities and differences in human behavior:

No doubt human beings have species-specific patterns of thought- just as we have species-specific patterns of locomotion and body-heat disposal. But how shall we use this fact to account for the tremendous variation in world views, religions, and philosophies, all of which are indisputably equally "good to think"? Structuralist and other varieties of idealist are no more capable of answering this question that they are capable of explaining why human beings, who are naturally terrestrial bipeds, sometimes ride horses and sometimes fly through the air, or why, given a species-specific endowment of sweat glands, some people cool off by sitting in front of air conditioners while others sip hot tea (Harris 1980: 57-58).

Harris anticipates the main failure of basically all humanist strategies. They are either not trying to explain variation in human behavior, or they are failing at it.

In case of Claude Lévi-Straus's (2008) "culinary triangle", many errors can be found as well. To summarize, he proposes a triangular semantic field which contains three conditions of food: "raw", "cooked" and "rotted". Societies are supposed to prepare foods in different ways, which all can be placed within the triangle. Some forms of preparation appear closer to "nature" (roasting) than to "culture" (boiling) within this dichotomy. This nature/culture divide then is supposed to influence people, whether they prepare food for strangers, for family, etc.

Similar problems and issues in terms of evidence and interpretation can be found in this theory:

(...) given a set of comestible substances, modes or preparing foods primarily reflect the availability of containers, ovens, fuels, and cooking utensils. For example, the Asiatic tradition of rapid frying of small chopped morsels developed in relationship to fuel shortages in heavily populated deforested regions (Harris 1980: 190).

Various other examples could be stated where preparing foods is connected to material conditions or domestic routines rather than any mental patterns that determine these activities (ibid). Questionable interpretations include that close kin are seen as "culture", whereas strangers are seen as "nature", therefore the former receive boiled foods and the latter roasted foods. Additionally, ethnographic evidence supports far more diverse and heterogenous modes of cooking, which all seem to depend on material conditions rather than human thought patterns: "The idea that cooking is primarily a language is food for thought only among those who have never had to worry about having enough to eat" (Harris 1980: 189).

If one is interested in explaining cause and effect of human behavior, and studying *Homo sapiens* in a scientific manner, nothing has been able to provide better results so far than the strategy of Cultural Materialism and its theoretical principle of “Infrastructural Determinism”:

The strategic advantage of infrastructural determinism as opposed to structuralism and sociobiology is that the recurrent limiting factors are variables that can be shown to exert their influence in measurably variable ways. This enables cultural materialism to construct theories that account for both differences and similarities. For example, the need to eat is a constant, but the quantities and kinds of foods that can be eaten vary in conformity with technology and habitat (Harris 1980: 58).

A similar strategic path to that of Lévi-Strauss is the one of Mary Douglas (1969). When she writes about notions of “purity” and “impurity”, “order” and “disorder”, “clean” and “dirty”, structuralist binary thinking is also evident. She does not explicitly mention her universal approach like Lévi-Strauss does, but from her considerations, it becomes clear that all humans in all societies supposedly have thought patterns about the dichotomies listed above. While these thought patterns are supposedly universal, various cultural interpretations exist of them. In her logic, then, every food taboo must be the result of the same binary thought pattern that is supposedly responsible for the avoidance of pork in the Jewish population. In her thinking, the universal aspect of human behavior is that humans always define certain animals, objects etc. as “dirty” and to define others as “pure” or “clean”. Since no materialist or rational explanation is inherent in her theory, the process of cultures to define what is “pure” or “impure” must be entirely irrational and random.

Now a direct comparison of explaining the Jewish pork taboo in a superstructural (idealist) and infrastructural (materialist) reasoning is possible:

The pig was tabooed, claims Douglas, because it had an anomalous status in the zoological taxonomy of the ancient Hebrews. Animals with such a status are dirty because universally, anything that defies classification or is out of place in an ordered view of the world evokes feelings of defilement or pollution (Harris 1980: 190).

If we look at the example of the Jewish pig taboo, according to Douglas, the rule of only eating ruminants that part the hoof lets the pig appear as “out of place”. And something that’s out of place is considered as dirty. She defines dirt as “matter that is out of place”. Animals or objects considered to be out of place are seen as a danger or as abominable.

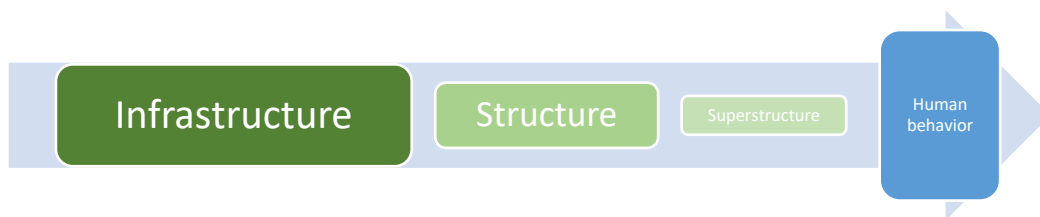
According to Harris (see Harris 1987b: 71-72), Douglas’ way of explaining this phenomenon would be a classical example of circular reasoning. She does actually not explain the emergence of the specific food taboo of the Jewish people, ergo the cause of it. She simply states that because the guidelines concerning nutrition and domesticated animals are written down in Leviticus and exclude the pig, it becomes something that’s “out of place”, and therefore

something abominable and dangerous. “The structuralist approach to animal taboos is unable to escape the constrictive embrace of a tautology: the pig is anomalous because it is anomalous in a taxonomic and ideological system in which it is anomalous” (Harris 1980: 192).

Douglas does not question why these guidelines actually exclude the pig. Cultural Materialism questions the whole phenomenon from a different perspective:

What we want to know is why the taxonomic system is set up in such a way as to render the pig anomalous, since there obviously is no universal reason why pigs are not good to think as well as to eat. The only way out of this tautology is to relate the ideological elements to variable infrastructures at the etic behavioral culture/nature interface (Harris 1980: 192).

As introduced in the respective chapter, Harris did exactly that. In the following graphic, it becomes clear how these arguments of Mary Douglas and Marvin Harris differ. While Douglas tried to explain the Jewish pork taboo only including “the superstructure”, the ideological taxonomy, Marvin Harris included all kinds of material aspects (climate, resources, etc.) and cost/benefit calculations into his research, and came up with a conclusion and explanation that is giving credit to the primacy of the infrastructure:



While pigs were actually raised in the early Neolithic period in the Middle East, at some point in history environmental changes (through increase of population and deforestation) made swineherding become impractical and ineffective for the Israelites as a means of subsistence (see Harris 1987b: 76). Pig husbandry would have become a severe danger for the survival of these primarily pastoral nomads and was then out of question. These facts alone would be able to explain the “low” reputation of pigs in this region. When Leviticus was written, it only made sense to include this food taboo into the guidelines, rather than to support eating behavior that was neither popular for the people nor positive for future survival. Therefore, explanations like a “taxonomic anomaly”, which explains an irrational disgust of people to a random animal, in the sense of Mary Douglas, are not necessary.

Unless they were close to starvation and nothing else was available, the Israelites were well advised not to waste their time trying to catch eagles, ospreys, sea gulls, and the like, supposing they were inclined to dine on creatures that consist of little more than skin, feathers, and well-nigh indestructible gizzards in the first place (Harris 1987b: 82).

In the end, Douglas is not able to explain variations of human behavior and their actual causes. She cannot explain why the notions of “purity” and “impurity” are not the same everywhere in

the world, apart from circular reasoning. The notions are different because every society is socialized differently. But why is every “culture” or society different in the first place?

Finally, I am going to deal with the most recent Humanist example I have introduced, Melanie Joy’s theory about human foodways and the concept of “carnism” (2011). Even more so than the examples before her theory is trying to explain universal human behavior in relation to food decision-making, which is exactly what cultural materialist strategies are doing. In contrast to Lévi-Strauss and Mary Douglas, Joy’s concept has not been under as much critique and investigation and, as far as my research went, not at all been tackled and criticized by any scientific account. I am therefore trying to argue from a scientific point of a view, in the logic of a cultural materialist, why her theory explains hardly anything about human behavior, and why she is outright wrong in some of her arguments. Since it is has not been dealt with before, the examination is in more detail than of the previous examples.

To summarize Joy’s theory, she assumes that humans naturally have a positive attitude towards animals and killing and eating them is a learnt ideology called “carnism”, rather than rational behavior (see Joy 2011: 28-29). The ideology of carnism is established and strengthened through cultural conditioning of the mind, and the human brain is then responsible for psychological techniques to numb natural positive and empathic feelings and emotions humans supposedly have towards animals. Society teaches us to behave certain ways, to have preferences (in taste), values and perceptions, to care about dogs as pets and not care about cows, and therefore killing and eating them.

Joy continues a long humanist tradition of explaining human behavior as primarily learnt or socialized behavior, as the following example shows:

(...) man’s selection of food is determined very largely by the habits and values which his ‘social heritage’ has imposed upon him. In some cases, in fact, his appetites may have become so culturally conditioned from the earliest years of childhood that he becomes unwilling or unfitted to eat certain types of food which he has been taught to despise” (Richards 1932: 8-9).

Joy explains food habits and preferences similar to Mary Douglas. In “Purity and Danger” (Douglas 1969), the ideology (through Leviticus) lies at the basis of the Jewish pork taboo, and the behavior is explained to originate in this very ideology. This logic can also be found in the cultural relativist school, where cultural patterns (Benedict 1960) are seen to determine human behavior. Where humanist’s opinions differ and the whole debate becomes paradoxical is to what degree cultural determinism is responsible for human actions and behavior, and to what degree individual agency or a “free will”. In some cases, human individuals are accredited with a strong sense of freedom and agency, despite also assuming an enculturation process. Harris

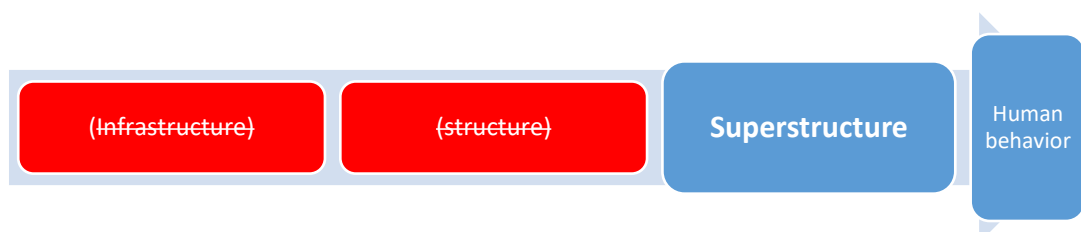
justifiably wonders: “If the enculturation experience determines for life how the individual is to conduct the entire pattern of his affairs, from sex to art, what then becomes of the vaunted freedom of the individual” (Harris 1968: 298).

In other cases, human individuals are rather seen like passive receivers of cultural determinism. In this question, Joy leans towards the latter side. She explicitly mentions “free will” to be a myth (see Joy 2011: 112-114). Inherent in her statements is a belief or assumption of some kind of determinism, which historically can probably be best compared with the Cultural Determinism of Kroeber: “Kroeber took the culture concept in the opposite direction and argued for the complete subordination of the individual to his cultural milieu” (Harris 1968: 327).

What all these humanist researchers have in common is their failure to find actual causal factors when trying to explain human behavior. If human behavior, like food habits, are determined by ideology or culture, how do humanists account for the emergence of a specific ideology and culture? Why do differences between cultures exist, where do they originate and how can they be explained? What is the actual cause of a human society to develop an ideology that forbids or commands specific eating behavior?

Melanie Joy is no humanist exception in not being able to answer these questions. According to her, human food habits are originating in ideologies that are part of culture, and which are transmitted through society and education. She argues that humans behave the way their society or culture tells them to behave. In her argument, our culture taught us to view specific animals as edible, while others remained to be viewed in a naturally more sympathetic way (see Joy 2011: 18-19).

Joy never bothers questioning why different animals are chosen to be edible or non-edible in different societies. These differences cannot be explained with her argument, unless she views these decisions as random decisions. This is where she becomes guilty of circular reasoning and where her argumentation becomes flawed. Before going into specific problems of Joy’s theory, I want to locate her arguments in the following graphic. When considering the concept of infrastructural determinism, the ideology of “carnism” (and main determining factor of human eating habits according to Joy) would fall into the category of the “superstructure”. Ergo Melanie Joy supports a superstructural (ideological) determinism:



Both infrastructure and structure of society are either excluded in her argument or accredited with little explanatory value. As a reminder, while the superstructure can exert influence upon the behavior of humans, according to Cultural Materialism, its impact and explanatory value is generally lower than that of the infrastructure or structure of society (see Harris 1980: 56). When Joy emphasizes that both “veganism” and “carnism” are ideologies, she may be right. But, when she assumes that these learnt values, morals and ways of thinking cause a specific behavior, in a scientific logic, she is wrong.

Let us first consider ethical concerns in nutritional decision-making from a Cultural Materialist perspective. In the logic of Cultural Materialism, in terms of cost and benefit, humans would prioritize nutritional and other material factors first (see Harris 1987a: 74-75), before anything like moral concerns would play a role in such calculations. This might be the reason why the emergence and importance of ethical foodways primarily originate in Western society. The ever-available overabundance of food makes it possible for people of Western societies to deal with questions about ethics. Securing subsistence (getting enough proteins, calories or other essential nutrients) is not an issue and it thereby leaves room for other concerns.

Apart from the fact that societies with low consumption of meat are mostly not doing it for ethical reasons but due to their specific circumstances, even where something like “ethics” could be interpreted into saving certain animals (“sacred cow”), it was argued that infrastructural factors and calculations of cost and benefit were responsible for establishing values and ideology about restricting the consumption of a (specific) meat.

Cost and benefit calculations are through human cultural evolution, for example, also responsible for why we love dogs in Western societies and neglect eating them. Basically, as carnivorous animals, dogs are inefficient in providing meat. Considering the abundance of more efficient sources of meat and the variety of services dogs can provide better than other animals, it is not random that dogs are highly valued in our society (see Harris 1987b: 179).

Some assumptions of Joy are lacking any form of actual evidence. She assumes that humans have naturally positive, empathetic feelings towards other species (see Joy 2011: 18). While she argues about meat-eating being an ideology, having empathy for and being fond of animals is supposedly not learnt but part of our natural program. Also, in contrast to animals, she assumes humans to be naturally moral or ethical. Joy would not question whether a female spider has a bad conscience about eating their male counterpart after intercourse, or if a lion feels guilty after hunting a gazelle.

Another point of critique has to be the ethnocentric Western perspective and rather inconsistent use of ethnographic material by Melanie Joy. She uses different ethnographic examples of

diverse food preferences as evidence to come to the conclusion that all tastes are acquired and learnt, implicating that there is no reason involved in it (see Joy 2011: 16-17). She also describes how pets like dogs and cats are seen and valued differently than pigs and cows, the distinction between edible and non-edible animals being an integral part of her “carnism” concept. The relevant question is whether sharing a positive attitude and emotions towards an animal, contradicts killing and eating it.

While in Western societies the thought of eating pets may in fact be rather shocking, this is not the case everywhere: “Animals that are treated in a petlike manner may nonetheless end up inside their owner’s stomach” (Harris 1987b: 175).

Many groups in New Guinea and Melanesia are treating their pigs as pets or family members, similar to how cats and dogs are treated in western societies (see Harris 1987b: 176-177). New Guinean women and children share their hut with pigs, where they eat and sleep in the same room. They might even go a bit further: “If a piglet has been separated from a sow, the women do not hesitate to nurse it at the breast along with a human baby” (ibid.). When they are grown up, in contrast to western behavior towards pets, pigs become part of the New Guinean diet. Other groups and societies (mostly pastoralist) that adore the animals they eat can, for example, be found in Sudan or Kenia, the Dinka, Nuer, Schilluk or Massai tribes (see Harris 1987b: 177-178). Similar to people in India, they adore and care about their cows, but in contrast to India, they also eat them. These ethnographic examples disprove Joy’s point about the arbitrarily learnt distinction of treating some animals as pets, and others as sources of meat and that it is paradox to have positive feelings towards an animal and nevertheless use it as a source of nutrition.

Finally, I want to mention an additional aspect that is part of most recent humanist papers and exemplifies how far it has gone from its roots in Science. Joy describes an incident at a petting zoo outside of the local grocery: „For some reason, I always feel an urge to physically connect with the animals. It seems almost instinctive, the desire to touch, to pet them” (Joy 2011: 95). After describing how the behavior of many humans in the petting zoo contradicts their eating behavior, she ends with the question: “Where has our empathy gone”? (Joy 2011: 96).

These quotes both exemplify the usage of personal opinion and emotion, thereby legitimizing subjectivity, and the socio-political aspect that is pervading her whole theory. Her goal is to bring change to a self-diagnosed problem within her own society. As mentioned before, this socio-political aspect is part of many recent humanist studies. Interestingly, at this point Joy is contradicting her earlier evaluations about how human individuals are encultured (without a “free will” involved).

It is impossible to exercise free will as long as we are operating from within the system. Free will requires consciousness, and our pervasive and deep-seated patterns of thought are unconscious; they are outside of our awareness and therefore outside of our control. (...) We must step outside the system to find our lost empathy and make choices that reflect what we truly feel and believe, rather than what we've been taught to feel and believe (Joy 2011: 113).

Humans are first depicted as robot-like “unfree” and passive recipients of their culture that teaches them to eat meat. But suddenly, when made aware of that behavior being ideological and the perceptions being constructed rather than natural, Joy suddenly views human agency and potential for change as a possibility that did not exist before. It seems like Joy's own ideology is getting in the way of producing a coherent theory about human foodways.

4.2. Defending Cultural Materialism

Cultural Materialism has been criticized in anthropology since its emergence in the 1960s for obvious reasons. Its main principles, assumptions, interests and concerns contradict most humanist stances, which have been dominating anthropology since the beginning of the 20th century. Some of those critiques and negative stances against Cultural Materialism and a Science of human behavior will be introduced, as well as their responses.

One point of critique was already mentioned in this thesis. It dealt with general questions about the legitimacy of Science and positivism. Scientists are accused of claiming to be objective, of building generalized laws and of explaining truths with absolute certainty, while the reality of human nature supposedly does not allow that. While the last argument is a matter of different ontological views, the epistemology of science and its criteria never stated to lead to absolute laws and truths, but to probabilities. Also, no scientist claims to be absolutely objective and non-biased, but the method of science tries to minimize subjectivity (see Harris 1994: 65-66).

A criticism Cultural Materialism often faces is about its emphasis on Infrastructural Determinism which, according to Humanists, leaves little to no space for questions about the agency of individuals, emic accounts and “cultural” aspects of societies by itself, etc.

While the primacy of the infrastructure and the etic perspective has been emphasized among cultural materialists, the structure and superstructure of society as well as the emic perspective always had their place in research as well:

The system is asymmetrical. Infrastructural variables are more determinative of the evolution of the system. But that does not mean that the infrastructure can do without its superstructure. Moreover, to say that structure and superstructure are causally dependent on infrastructure is not to say that in the processes of continuity and change, selection pressure is exerted only from infrastructure to superstructure. (...) Structure and superstructure are not mere passive, epiphenomenal products; rather they actively contribute both to the continuity and change of infrastructures. But they do so within the

limitations and possibilities inherent in a given set of demo-techno-econo-environmental conditions (Harris 1994: 70).

Similar to the superstructure, the emic perspective is in fact of concern in Cultural Materialism, but it is accredited with less explanatory value than the etic perspective. This was thoroughly discussed earlier, which is why I am not going into detail about it anymore.

According to Harris, many colleagues seem to think that Cultural Materialism tries to explain all socio-cultural phenomena with Infrastructural Determinism. This is a misplaced concern:

Clearly it is very likely that many sociocultural traits are the consequence of arbitrary, idiographic events. But the main task of cultural materialism is to concentrate on building a corpus of testable theories that is broader, more coherent, and more interpenetrating than the theories of alternative research strategies while attending to seemingly refractory cases as they are brought to light (Harris 1994: 69).

Another critique that was often placed against the strategy of Cultural Materialism is concerned with the human individual, its agency and mind. Apparently “Cultural Materialism remains rooted in a mechanical, naturalistic mode that fails to reckon with the fact that the mind is far more than a *tabula rasa*” (Murphy 1994: 58).

Obviously, when considering the focus of Cultural Materialism on bio-psychological urges and needs of humans and neonates, it becomes clear that they do not view newborn humans as a *tabula rasa* at birth (see Harris 1994: 68). What humanists and cultural materialists would still argue about is whether the pre-existing condition of a newborn child is made up of random mental preferences and ways of thinking, or pre-determined biopsychological behavior.

Another concern of Humanism and especially postmodern researchers against Cultural Materialism is about their use of optimization models. Apparently, they are guilty of ignoring disparities in power, injustice, etc., when focusing on cost and benefit calculations. Harris responds:

The fact that modes of production and reproduction are selected for in conformity with optimizing principles does not mean that every member of a society benefits equally from this selection process. (...) the benefits may be distributed in a completely lopsided and exploitative fashion. Under such circumstances, the costs and benefits must be reckoned not only with respect to individuals in their infrastructural context but with respect to the political-economic decisions of power-holders (Harris 1994: 72).

Critics of Cultural Materialism are often not able to move away from their own ideological background. They cannot imagine an infrastructural determinative process to exist because of the deeply grounded notion of “mind” and all the supposedly unique and random human phenomena:

(...) our feet are mired in dung, but our heads – our minds - reach upward to the stars. This eternal contradiction is the joy and centerpiece of our humanity, and the anthropological mission is to study and describe, in all its richness, the work of life (Murphy 1994: 59).

Of course, ethnographies and studies as described by Murphy can be entertaining and interesting. They are by no means explaining anything about human behavior. I chose to exemplify humanist theories that themselves tried to be different than described by Murphy. They tried to explain human behavior, but they failed in explaining the actual causes and are guilty of circular reasoning and idealist explanations. That is why, in the following chapter, I will give a short overview and summary about how scientific strategies approach the topic of human foodways.

4.3. The scientific study of human foodways

In the previous chapter, I have tried to compare the two strategies of Humanism and Science and to show that the latter is the better option when it comes to the study and research of human behavior. Humanist studies may work perfectly in repeating or describing emic accounts of individuals of a specific society. Also, they may give a more or less accurate but specific picture of the perceptions and emotions involved in human behavior. Nevertheless, nothing in humanist research comes close in terms of explanatory value to the scientific, nomothetic studies of physics and biology. Hardly any advancements or factual knowledge have been gathered about human behavior in the past century. Cultural Materialism is a research strategy that offers insights about human behavior that humanist studies cannot offer. The differences and similarities in human behavior, the vast amount of variations existing in the world and between the past and today, can for now best be explained by the strategy of Cultural Materialism.

How the strategy of Cultural Materialism works best was laid out perfectly by Marvin Harris. Nevertheless, I shall present my own version of a concept that presents a good basis for future research purposes relating to food-related human behavior. This concept is trying to show the various factors and facets relevant to the study of human foodways, but it is not claiming to go into detail about all of them.

First and foremost, one has to assume human food habits to “be viewed within a historically formulated understanding of any given social system, as an evolutionary product of environmental conditions and of the basic forces, especially the social institutions and social relations, that effectively determine their use” (Harris 1987a: 8).

Additionally, apart from the external influence, one has to consider the biological condition of the *Homo sapiens* as well as optimization models of cost and benefit that are inherent in

societies. The main factors and assumptions of human food-decision making will now be presented.

Biological determinants & Organic Evolution

While not being able to explain human foodways by themselves, biological and bio-psychological factors do play a major role in the development of specific food habits and aversions. “Most recently, the principle has been modified to include the ‘bio-psychological givens’ of ‘sex, hunger, thirst, sleep, nutrition, metabolism, digestion, vulnerability to mental and physical disease and to stress by darkness, cold, heat, etc.’” (Ferguson 1995: 23-24).

Biological and bio-psychological dispositions need to be considered in order to present a satisfying account on questions about human nutrition:

It is clear that any thoroughgoing optimization model implies that there are biopsychological needs and drives that foodways satisfy with varying degrees of efficiency. Economizing of costs implies at the very least a genetically determined propensity to conserve energy. More specific biogenetic factors shape the need for essential nutrients and undoubtedly endow human beings with certain food preferences and aversions at birth (Harris 1987a: 79).

Harris adds that it is certainly not an easy task to find out whether human bio-psychology or learnt behavior is responsible for certain preferences or aversions. There is a great need to differentiate between behavior determined by either end of the (biological) nature vs. (cultural) nurture debate (ibid.). Clues can be found when looking at closely related species like chimpanzees. In their case, meat seems to have a special nutritional significance, and this behavior can only be linked to nature in their case. Similar behavior of the *Homo sapiens* is not necessarily evidence for it being natural here as well. It could also be learnt behavior, and not a “genetic program” that favors meat: “In the human case, the preferential status accorded meat (especially fatty meat) and animal foods may simply reflect purely traditional cultural codings that favor meat and animal products as cost-efficient packages of calories and essential nutrients” (Harris 1987a: 80).

Other bio-psychological preferences have more evidence to present. “Genetically determined dispositions” can be found in all humans: “The best-documented biological constraints are: an innate preference for sweet tastes and an avoidance of bitter tastes or irritation of the oropharyngeal surface (e.g., as produced by irritant spices or tobacco smoke)” (Rozin 1987: 182).

Since this behavior can be seen starting with neonates, it follows that it has to be bio-psychological rather than learnt behavior. The reason for the positive attitude towards sweet foods could be explained with “a bioevolutionary adaptation based on the fact that sweetness is

characterized of high-energy substance and hence is a predictor of nutritive value" (Harris 1987a: 80).

In case of bitter substances, the aversion seems to originate in "a bioevolutionary adaptation that protects against the ingestion of harmful and poisonous substances" (ibid.). Such tendential behavior can nevertheless be over-written by culture, as it can be seen in the voluntary consumption of bitter substances of adult humans.

An important biological adaptation occurred rather "recently" in the history of our species, namely during the early Neolithic period, when dairying spread. A new ability of some human populations to "produce lactase, the enzyme, that is necessary for digesting lactose" (ibid.), emerged. This biological ability explains why Europeans and other populations having this ability developed a positive attitude towards fresh milk, while the Chinese did not. This biological condition cannot explain, though, why the Chinese never started dairying and therefore never acquired this ability. These questions once again have to take into account the "geographical, ecological, and political-economic features that have molded basic Chinese subsistence patterns in contrast to those of other Eurasian states" (Harris 1987a: 81).

Harris makes a final point about bio-psychological preferences. Obviously, humans tend to have preferences for substances that are harmful to them. This seems to be an argument against rational thinking and cost and benefit calculations. How can it be explained that humans consume and enjoy substances like alcohol, nicotine, cocaine and other psychoactive chemicals? "The biopsychology of these narcotics and stimulants obviously operates in conformity with optimizations that can override and cancel normal nutritional and energetic cost/benefits" (ibid.).

There are certainly culturally determined differences in the degree and kind of use (or abuse) of these substances (prohibitions, religious commandments, taboos). It is uncertain, but still a possibility, that genetic differences exist as well, which can account for different appeals and effects of specific substances to different human populations.

Superorganic Evolution

Organic evolution can explain why people around the world are not eating grass and hay, and it can also be helpful in explaining a small number of dietary questions that revolve around genetic factors, for example in terms of milk consumption and the fava bean (see Harris 1987a: 2).

What it cannot explain is why there were so many shifts in human diet and why there is such a variety of different diets between different societies today: "In evolutionary perspective,

however, most of the great changes in human diet can be more readily associated with shifts in modes of production that are not in turn linked to such genetic variations” (ibid.).

That is why the superorganic (socio-cultural) evolution is of prime interest to the scientist of social behavior. One of these mentioned great changes was the “transition from upper paleolithic to neolithic modes of production” (ibid.). Another shift followed with “the rise of archaic agro-managerial states whose dense, socially stratified populations were dependent on one or two staple grains and which maintained distinctive consumption patterns for elites and commoners” (ibid.).

Many more could be mentioned. Superorganic evolution works quicker than organic evolution and its changes are therefore of a higher number and more diverse (see Harris 1995: 28). Every study about human foodways needs to consider these major shifts in human diet and the development of human subsistence in general before assuming any more specific aspects of dietary rules and avoidances. Superorganic evolution might even be of greater relevance to the understanding of human food habits:

(...) to understand the last 40 000 years of the evolution of culture, primary emphasis must be given to cultural rather than biological processes. Natural selection and organic evolution lie at the base of culture, but once the capacity for culture became fully developed, a vast number of cultural differences and similarities could arise and disappear entirely independently of changes in genotypes (ibid.).

How superorganic evolution is formed, ergo why in specific places at specific times the modes of production as well as dietary habits were changing, can be derived from the main theoretical principle of Cultural Materialism, Infrastructural Determinism.

Infrastructural Determinism

The main theoretical principle of Cultural Materialism has been introduced and thoroughly explained before (chapter 2.2.3). Therefore, I will not go into detail about it in this section. Nevertheless, as part and purpose of this concept, I shall provide a short summary. All socio-cultural systems are divided “into infrastructure, structure and superstructure, each with its behavioral and mental domains, all approachable through etic and emic perspectives” (Ferguson 1995: 22). Societies tend to be conservative, unless major changes happen in the infrastructure that then affect the structure and superstructure, and thereby change the lives of the people:

Cultural materialism’s infrastructure is conceptualized as a conjuncture of demographic, technological, ecological, and economic factors that comprise the interface of a population with the physical world, a society’s mode of production and reproduction. Structure encompasses domestic patterns, political organization, and economic relations (relations of production). Superstructure includes values, aesthetics, rules, beliefs, symbols, rituals, religions, philosophies, and science” (Ferguson 1995: 23).

Before time is wasted by focusing on superstructural factors like ideology or religion, it only makes sense to first consider infrastructural determining factors. Only if they are not able to give any clues and explanations, one is ought to go a step further and deal with the other, less impactful, levels of society.

Optimization models: Cost and benefit

There is no society where humans eat everything edible, digestible and available to them. This means there is always choice involved. Some plants and animals become part of the common diet, and some do not. This choice is either irrational and random or rationally chosen. In the latter case, which would be supported by materialist and scientific strategies, the rational decision-making can be explained through optimization models.

There are no materialist principles that lead to the prediction that all edible plants and animals will be used. A considerable amount of non-use is essential for optimization-selection models. Such models assume that some edible species are more useful than others; therefore, some potentially useful species will be neglected in order optimize cost/benefits of production and the maintenance of nutritional standards (Harris 1987a: 74).

A variety of different optimization models have emerged in scientific studies of human foodways (and other aspects of human behavior). The difficulty lies in how these optimization models work in relation to external determinants, whether the optimization strategies work short or long-term, and to what extent they can explain human foodways.

The major factors that play a role for foods to become a favorable part of the usual diet are “the measurement of their abundance, their seasonality, the time and energy costs of ‘harvesting’ them, and their nutritional value” (ibid.). Tastiness is also “a viable index of behavioral cost/benefits” (ibid.) when considered as a biopsychological preference or aversion (like sweet and bitter), and not as random emic preference.

When looking at the whole history of our species, for the most time humans lived as hunters and gatherers. Optimal foraging models can be useful, but mostly only in these cases:

Optimal foraging models predict that plant and animal species whose exploitation lowers the average calorie cost/benefit ratio of foraging activities will not be gathered or hunted. (...) Energetic efficiency can be maximized by concentrating on species that rank high on the optimal diet list (Harris 1987a: 74).

An optimal diet list, of course, should also include other essential nutrients like proteins, fats, fiber, vitamins, etc.: “These have yet to be incorporated in to mathematical models, but their effects on aversions and preferences can scarcely be ignored” (ibid.).

An interesting phenomenon happens when there is an abundance of possible nutritional sources. Subsistence strategies then need to be prioritized. This leads to societies and groups neglecting

specific resources, despite their availability. This point was made when I introduced various examples of supposedly arbitrary food taboos: “Notions of conflicting priorities, scheduling, and maximization underlie the argument that economic and ecological cost/benefits are responsible for tabooing the flesh of such specialized domestic animals as the pig, horse, camel, dog, and cat” (Harris 1987a: 75).

For example, larger animals like the tapir and deer are neglected by some aboriginal Amazonian groups despite their nutritional value (see Ross 1987). This is because they prioritize and put all effort in hunting monkeys and birds. These animals come to better results in cost/benefit calculations because of their higher availability and less energy put into hunting them. Optimization strategies can also be the causal factor for humans to avoid eating carnivores: “These creatures not only tend to be solitary, hard to find, and dangerous when found, but they are notably deficient in fat, which is much sought after by hunter-gatherers and village horticulturalists” (ibid).

When I introduced cultural materialist theories about food taboos in the Middle East or India, it became clear that nutritional value is not the only concern in cost and benefit calculations.

While the cow is certainly very nutritious, it is not part of the Indian diet because it serves a different purpose. By plowing the fields and thereby supporting Indian farmers in harsh environments, cows are more valuable alive than dead. Indian families can survive longer and secure subsistence better when using cows primarily for their abilities to support agricultural work. There are many different examples for non-nutritive uses of animals that beat their nutritive uses:

The costs of avoiding the consumption of domesticated species such as cats, dogs, horses, and cattle may be systemically overridden by their multiple, non-nutritive, specialized, technological functions: cats for mousing, dogs for lookouts, herding, hunting, and scavenging; horses for riding, traction, milking; cattle for traction, milking, manuring. In other words, under conditions related to the entire infrastructural and political-economic conjunction, an animal species may be too valuable alive for it to be raised and slaughtered for food (Harris 1987a: 75).

From all examples given so far, it follows that animals are tabooed or left out of a society’s diet when they are either more useful for non-nutritional purposes, or when there is an abundance of animals and plants that have a better cost/benefit ratio than the ones neglected. It is therefore a sign of wealth and reliable, abundant and relatively cheap foods that, in most Western societies, a variety of animals like cats, dogs, horses and insects are avoided.

Another aspect must be considered: “The fact that a rule exists for avoiding a particular species does not mean that the rule is uniformly obeyed. (...) Conformity to a foodway may depend on circumstances not explicit in the rule” (ibid.).

Animals usually considered as non-edible suddenly become “edible” in times of crisis or emergency (for example droughts). They are usually not a preferable choice since they are either rare, hard to hunt or less nutritious than other animals or plants (see Harris 1987a: 72).

Economy of Foodways

The relevance of food in political and economic terms should not be underestimated and excluded from a concept about human food habits, preferences and aversions:

Control over the production and consumption of food has been a source of power and wealth from prehistoric times to the present. Since the onset of European mercantile and capitalist expansion in the 15th century, rapid changes in world foodways have resulted from the struggle for political hegemony and the search for profit (Harris 1987a: 82).

The whole development of modern history could be related to foodways (with the transfer of animals and plants across the globe, trade, etc.), but it is impossible to summarize all effects, whether beneficial or harmful (ibid.).

When looking at Western societies and the past century, a trend emerged that is a new but very dominant factor in determining food habits, “(...) namely, the increasing role of profit in the development of mass preferences and aversions.” (ibid.). For example, the use of tobacco is heavily dependent on a variety of different factors. It is

(...) in part attributable to an innate vulnerability to nicotine addiction, in part to the toleration of governments that allow or even encourage the nicotine habit to develop while suppressing the use of other addictive drugs, and in part to the huge profits made by tobacco companies, which in turn finance scientifically designed advertising campaigns and other promotional activities (Harris 1987a: 82).

Obviously, while not stated by Harris, other factors do play a role here, too. For example, congruent with infrastructural determinism, the use of tobacco has to be seen in the light of its availability and connected costs. While it does take less energy to go to buy cigarettes than to hunt an animal, obviously, a higher price of tobacco would probably lead to a lower degree of usage.

While tobacco is actually not the best example for foodways, the same factors also play a role in explaining the popularity of all kinds of foods and beverages like coffee, chocolate, candies and soft drinks. All of these utilize an innate bio-psychological vulnerability of humans, for they include addictive and/or psychoactive substances. When these products are additionally subsidized by governments because they are a source of profit, as well as “relentlessly promoted and advertised” by corporations, their abuse by people is obviously strongly influenced by external factors (see Harris 1987a: 82-83).

It is obvious that food-related issues as just described are in fact relevant in Western societies today. Not droughts and hunger are severe problems in these times of the Western world; rather, it is the overabundance and inexpensive availability of unhealthy foods and connected with it, obesity and cardiovascular disorders:

Even the poorer classes have access to quantities of starches, sugars, and fats sufficient to make them obese at their required levels of daily activity and calorie expenditure. With this phenomenon has come the realization that the 'on' switches of human appetite are far more sensitive than the 'off' switches. The reason for this asymmetry is that throughout the past three million years, natural selection has favored individuals who eat to store fat whenever there is an opportunity to do so. Individuals who did not eat to store fat were at disadvantage during hungry seasons and famines (Harris 1987a: 83).

When looking at the decline of tobacco use in the United States, one can derive with the assumption that political intervention in form of bans, negative campaigning, etc. can actually lead to a decline in its use. Perhaps similar political-economic or scientific interventions can also bring Western societies to healthier lifestyles. Of course, this is a complicated issue, since interests of large corporations might differ from interests of governments or peoples, and it could also be contradictory to other interests of governments. When considering the amount and popularity of gyms, fitness memberships, diet books, etc., it becomes clear that the issue is real to many people.

Foodways and status privileges

An additional aspect of human food habits has to be considered since no tendency, taboo or habit can strictly speak for entire populations as an absolute law. Especially in today's Western societies, one could certainly find individual people out of millions who would eat dogs, cats, as well as humans. Does that mean that in Western societies, dogs and cats are usual ingredients of our diet, and that we are cannibalistic? Certainly not. These exceptions do not change the fact that there is a tendency to avoid dogs, cats, insects, etc., as well as to be cannibalistic in western diets.

In egalitarian societies, there might be a shared view and absolute consensual behavior towards what and what not to eat. Of course, in more complex societies that are always hierarchical in some way, exceptions and differences exist between different groups of a society. These differences can be apparent or hidden, planned or not planned:

This means that benefits and costs may be distributed unevenly among age cohorts, between males and females, and during the phases of the life cycle (e.g., pregnancy, lactation, marriage, and widowhood). No materialist principles predict that everyone benefits or suffers equally from foodways (or other cultural beliefs and practices). Proscription of a food for one status group may be the precondition, under a given set of

infrastructural and political-economic arrangements, for its consumption by others (Harris 1987a: 72-73).

Harris then mentions a variety of examples, where certain foods are only to be eaten by a specific group. For example, the meat of deer is reserved for the senior males of the Amazon Tapirapé and restricted to the other members of the group (see Harris 1987a: 73). While there is not enough evidence to support this claim as a fact, it seems obvious in the logic and information that was shown so far that these restrictions are not random or irrational. One explanation would be that deer is restricted to a single group because of its scarcity. According to many studies cited by Harris, the Amazonian aboriginal subsistence is characterized by “extreme vulnerability of tropical mammalian species to depletions” (ibid.). In this case, it makes sense for these people to avoid hunting down deer for all of its members and restrict it to a small group. It should be added that “many preferences and avoidances associated with gender hierarchies are best regarded as forms of rationing” (ibid.).

As introduced earlier, dietary variation among gender lines is not uncommon, with women often being the group that is receiving lesser nutrients than men (see Ross 1987: 18).

Restrictions can also have another function. By reserving and restricting specific foods for specific groups, hierarchies and status positions can be supported and barriers between groups marked. Being a member of a group comes with “differential rights and obligations with respect to foodways”:

Apparently arbitrary specialists often reflect a systemic division of labor, an apportionment of risks, and an equal or unequal distribution of nutritional benefits. The oft-noted specialized preferences and aversions of sibs and lineages, and especially of castes and ethnic groups, suggest an underlying allocation of environmental and economic niches (Harris 1987a: 73).

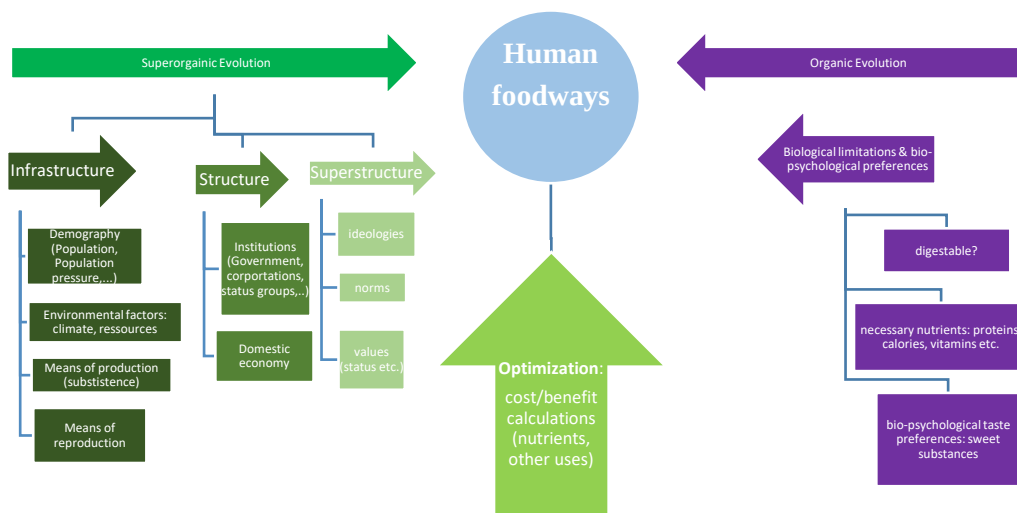
Segmentary foodways within societies can be found in many places. As introduced in the chapter about the Indian cow taboo, this taboo is in fact supported by the majority of Indians and Hindu people, but to Muslims and Christians living in India, the connected abundance of old cows offers a great opportunity for cheap beef. Similar niches and segmented foodways can be found all over the world. In many cases, niches also exist because of the expensiveness of specific foods.

Emic vs. Etic

Another factor that should always be remembered when doing research about human foodways is that the emic and etic explanations for the same phenomena often differ. The reasons for that are various. Sometimes people do not know the actual reasons for their behavior, or the cause

of the ideology they were raised with. To remind of the example of the “Tucson Garbage Project” (see Rathje & Cullen 1992), it also should be clear that in some cases people either do not remember how they behaved or purposely present their behavior in a different light. In all of these cases, emic statements would differ from the analytical etic perspective. The discrepancies between emic statements and etic observations are striking. Whether one asks individuals about their preferences or aversions, being economical or wasteful, or eating healthy or unhealthy – the interpretation of the behavior is not necessarily in line with the actual behavior (see Harris 1987a: 72). This is especially true when people are trying to estimate their level of consumption (for example alcohol) or amount of produced food wasted.

4.3.1. Model: Factors relevant when researching human foodways



The model/graphic explained:

The model pictured above tries to illustrate how human food choices, preferences, avoidances or habits are determined.

On the right side, the organic aspects of the human condition are presented. These include biological limitations in terms of digestion and biological needs of certain nutrients, as well as bio-psychological preferences that represent natural aversions and preferences. The factor of

organic evolution has to be considered as well, since its influence might be responsible for differences between behavior of different societies.

On the left side, the conjuncture of demographic, technological, ecological, and economic factors is represented as part of the infrastructure (climate, technology, population, ...) and structure (hierarchies, status privileges, political groups, ...) of a given society. Additionally, the superstructure is presented as the norms, values and ideologies influencing human foodways. This superstructure remains fragile and can easily be changed by changes in the structure of society or the infrastructure. Mostly, the norms, values and religious restrictions are a direct outcome and effect of the factors already mentioned. These three parts of society are presented in a way that illustrates the primacy of the infrastructure and the hierarchy of the three parts. Superorganic evolution can be seen as exemplifying a kind of timeline to the changes happening all stages of society, in the infrastructure (for example technological advancements), structure (for example labor division) or the superstructure (religion).

Both the left and right sides are relevant when it comes to the study of human nutrition. What kind of resources (plants, animals) a region offers, what technology is available to produce crops or hunt animals, etc., and what the human body is able to digest and actually needs for survival plays the prime role in food-decision-making.

The optimization models and the cost/benefit calculations are located in between the inorganic, organic and superorganic factors. When societies optimize their diet, both sides have to be considered, just like the benefits certain foods can have for non-nutritional uses.

5. Conclusion

The goal of this thesis was to give an overview and compare the two very different research strategies of Humanism and Science. By introducing their main assumptions and research principles and by exemplifying their application in research projects and connected theories about human foodways like diets and taboos, I aimed to show what these two research strategies have to offer, what they are interested in and how they are trying to gain knowledge about human social behavior.

While the humanistic research strategy is generally particularistic and in search of describing human phenomena, the scientific strategy is universalistic and in search of explaining human phenomena. By looking at the set of specific principles, assumptions, concepts and theories of the two research strategies and philosophies of Science and Humanism, I was able to give a comprehensive overview and basic understanding of how human behavior can be explained.

Nutrition provided a fruitful field to exemplify and illustrate these different strategies. By comparing a variety of theories and concepts about human foodways (habits, diets and taboos), I was able to show how much knowledge and explanatory value can be gained from them. From my evaluations, it became clear that only scientific research was able to provide a decent understanding of the human condition, social and nutritional behavior. This was especially obvious in the cases where I was able to directly compare theories from the humanist spectrum and cultural materialist theories about the same phenomena.

For these very reasons, I was trying to argue for the use and strengthening of the scientific strategy in the study of humans. In the fields of inorganic and organic matter, the scientific method has yet to be challenged by any other strategy that even remotely comes close to the achievements and insights gained by Science. In the realm of culture and society, ergo in the study of the superorganic entity, the path of the 20th century has led to a steady decline of generalizing theories, of comparative studies and in the end even in trying to explain cause and effect of human behavior and to account for the differences and similarities in human societies. Humanistic and postmodern evaluations of human behavior, questions about identity, personal feelings, etc. can offer interesting perspectives on certain specific subjects, but their attempts to be of any explanatory value are failing. Besides logical errors and circular reasoning in the studies of Mary Douglas and Melanie Joy, the use of their concepts is very limited.

The concepts provided by Cultural Materialists like Marvin Harris, on the other hand, can be used as a tool to research any society at any given time. That is not to say that his results and

explanations are perfect. Like every science, Cultural Materialism does not imply guaranteed results: they are always probabilistic. After many decades of being called out obsolete, the interest in a science of human behavior regained popularity in the 1950s. Many obstacles had to be fought in order to find a place next to the dominating anthropological humanistic schools. While the early scientific thinkers from the 19th century had to be revitalized, their errors also had to be overcome. It took quite some time and effort to deal with all the mythmaking happening in humanist and interpretative anthropology before actual new scientific theories were being generated. Scientific anthropology has been revitalized since the 1950s and 1960s, but it was never able to overcome the dominance of the humanist and postmodern strategies. Of course, the representatives of these strategies were trying their best to criticize the new scientific movement of Cultural Materialism with all kinds of unwarranted accusations. I was therefore also trying to deal with these accusations and respond to them.

Maybe one day even more accurate concepts and theories about human foodways of behavior in general are possible than the ones offered by Cultural Materialism. It is clear, though, that more accuracy and more fruitful concepts and theories can only be achieved if the scientific study of human behavior is regaining its place, interest and strength, and the postmodern theory-fatigue is dropped altogether.

Concerning a variety of specific food taboos and human foodways, there have not been any other explanations and studies that were able to provide rational and logical explanations of supposedly irrational human behavior. These examples are indicating that the theoretical principles of Cultural Materialism, most especially Infrastructural Determinism, are of great use when studying superorganic evolution, human behavior and societies in general.

Since my topic of choice were human foodways and nutrition, I completed my thesis with a summarizing concept and compact toolkit which shall provide future studies and research of human foodways with the basic factors that play a role in the determination of human foodways, habits and taboos.

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Abstract (Deutsch)

Die vorliegende Masterarbeit wirft die Frage in den Raum, welche der beiden in der Kultur- und Sozialanthropologie dominanten Forschungsstrategien, Humanismus und Science, menschliches Verhalten sowie sozio-kulturelle Phänomene schlüssiger erklären können.

Diese Frage wird anhand des konkreten Themenbereiches der menschlichen Ernährung veranschaulicht und analysiert. Die Arbeit beschäftigt sich mit Essgewohnheiten und Nahrungstabus, aber vor allem mit der Frage, wieso sich menschliche Nahrungsgewohnheiten je nach Region und Gesellschaft unterscheiden und wodurch sie determiniert sind.

Der Vergleich von Humanismus und Science wird zuerst basierend auf deren Annahmen und wissenschaftlichen Prinzipien geführt. Dies betrifft die ontologischen Feststellungen, epistemologische Ansichten sowie theoretische und methodologische Prinzipien. Daraufhin werden die beiden Forschungsstrategien anhand konkreter Konzepte und Theorien über menschliche Ernährung beispielhaft dargestellt. Dabei wird gezeigt, wie sich die zuvor vorgestellten wissenschaftlichen Prinzipien auf die WissenschaftlerInnen und deren Theorien auswirken. Schlussendlich werden die vorgestellten Theorien auf ihre Wissenschaftlichkeit, ihre Kohärenz und Schlüssigkeit geprüft und direkt miteinander verglichen. Besonders gut funktioniert dieser Vergleich anhand des Beispiels des jüdischen Schweine-Tabus, welches sowohl von der humanistischen (Douglas) als auch scientistischen (Harris) Perspektive untersucht wurde. Aber auch die unterschiedlichen Erklärungsmodelle über die Herausbildung menschlicher Nahrungsgewohnheiten, von idealistischer Seite mittels kulturellem Determinismus (Joy) und von materialistischer Seite mittels Kosten-Nutzen-Rechnungen und infrastrukturellem Determinismus (Harris/Ross), zeichnen ein gutes Bild über die Art und Weise wie unterschiedlich Wissenschaft praktiziert werden kann.

Aufgrund der existierenden Logikfehler und Zirkelschlüsse in den humanistischen Theorien, aber vor allem wegen unlogischer und inkohärenter Erklärungen zu menschlichen Nahrungsgewohnheiten, müssen die ontologischen Annahmen sowie epistemologische und theoretische Prinzipien des Humanismus in Frage gestellt werden! Der Fokus auf die „superstructure“ (Ideologien) der Gesellschaft und emische Sichtweisen können durchaus interessante Ergebnisse liefern. Basierend auf meiner Evaluierung stellt sich jedoch heraus, dass sie es nicht vermögen die Ursache und Wirkung menschlichen Verhaltens und sozio-kultureller Phänomene zu erklären. Naturwissenschaftliche Theorien können auch keine absoluten Wahrheiten und Erklärungen liefern, sie vermögen es jedoch bessere Konzepte und Theorien aufzustellen und menschliches Verhalten schlüssiger zu erklären.

Abstract (English)

What research strategy in Cultural- and Social Anthropology is able to generate better explanations about human behavior and social phenomena in terms of coherence and logic? This question lies at the core of my thesis and guides my analysis when I compare the two main research strategies dominant in the study of human social behavior, Humanism and Science. These two philosophies are compared in the realm of a specific topic, human nutrition and foodways. The specific theories and concepts mostly deal with food habits and food taboos, but center around the question of how human foodways are determined and why they differ between regions and societies.

The underlying assumptions and principles guiding the two philosophies of Humanism and Science are introduced first. I am thereby concerned with the ontological, epistemological, theoretical and methodological principles. Subsequently theories and concepts about human foodways from both research strategies will be introduced separately. It will be shown how the underlying principles and assumptions guide the analysis of the researchers and how they impact the final theories. The idealist theoretical principle in form of cultural determinism is for example depicted by Joy's "carnism" concept and her superstructural explanation of human meat-consumption. The materialist theoretical principles including infrastructural determinism, optimization theories and cost and benefit calculations, exemplify the scientific research strategy.

Finally, the introduced concepts and theories from Humanism and Science are directly compared and analyzed in terms of their logical coherence and their explanatory value. The comparison is especially fruitful in the case of the Jewish pork-taboo, because it was researched from both the humanist (Douglas), as well as the scientific (Harris) perspective.

It will be shown that apart from logical errors and circular reasoning the Humanist examples are guilty of not being able to provide a logical, coherent explanation of human foodways. This is directly related to their ontological, epistemological, theoretical and methodological assumptions and principles. Focusing on the "superstructure" (ideologies) of societies and considering the emic perspective has its merits. Nevertheless, according to my evaluations these principles are not able to properly explain cause and effect of human behavior and social phenomena. Scientific theories are not able to produce guaranteed truths and absolute explanations either, but they are providing us with more coherent and logical explanations about human behavior.