universität wien

MASTERARBEIT / MASTER'S THESIS

Titel der Masterarbeit / Title of the Master's Thesis

Cultural Adaptation as a Response to Ecologic and Economic Changes – As Exemplified by Whale Meat in Iceland

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, 2021 / Vienna, 2021

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:	Univ.-Doz. Dr. Helmut Lukas

It is what we do – from birth till death and everyday too;

It is what we love – and share with others lots of;

And it is what we fear – it can kill us without a tear.

But one thing it is not.

A choice we got.[1]

[1] The author, 2021

1 Table of Contents

2 Introduction

> "I think we should eat what we have in Iceland. We were isolated for so many hundreds of years – that's why we still speak the old Viking language. We just had to manage to live off what we have. We eat the birds and we eat the fish and we eat of course the whale, *hvalreki*, and the small whales. We live from what we have around us. We don't have so much – fruits and stuff. But what we have, we respect in our surroundings." (SU, 2018[2])

This citation demonstrates the multiple dimensions of our human existence. It is not only that we humans are undeniably cultural and social beings, but we are also subject to all the aspects an animal is depending on, too. This includes life and death and everything in between. It is blank survival that spurs us facing our natural environment, but it is more than that that makes us cope with it.

This means that firstly, human beings are dependent on their environment, consisting of both natural and cultural realms. Secondly, nothing ever stays the same – neither we as individuals, nor our sociocultural system, and not even our habitat. And thirdly, this statement was actually false as the one thing that stays the same is that we always have to find ways to adapt to such changes. This is true for every person, every sociocultural system, and every habitat on earth, but particularly observable in a place like a remote island.

In all this, one element plays a special role. As all those who are reading this are human beings, we also know how dependent we are on nutrient intake, how inevitably vulnerable we are in regard to it. We have no other choice than to ingest specific items on a daily basis, just as there is no other choice than to adapt to certain changes. It is either this, or demise. On the one hand the demise of the individual and on the other the demise of the collective – and both functions in tandem with the other.

Food is not only based on the very ecological conditions of a given social system, the natural realm, but also on the way in which we deal with these conditions, which is done through the cultural realm. Thus, we humans, in contrast to animals, use culture to deal with nature. And this means that culture *is* our nature – making this undertaking filled with specific values, norms and rules, depending on the unique sociocultural system in its unique natural habitat. Food is therefore not only a natural and biological matter but also and equally a social and cultural one. This makes it just like human beings – having one foot in the cultural and one foot in the natural world – with each world dependent on the other. This results in the fact that it is the one element that concerns each and every one – the individual and the collective, the micro and the macro, the local and the global. And due to this special role, it is the first entity that experiences and deals with change.

[2] This refers to a non-anonymous interview with the indicated person found in Chapter 10.5.

Aim of the Thesis

The aim of this paper is simple. It intends to achieve a thorough understanding and explanation of specific sociocultural traits in a specific setting including the specific changes experienced. In other words, it is about the manifold transformations faced by a certain natural habitat and the affected society, the concrete adaptations to these transformations, and how this affects the respective people on both a collective and an individual level. One central topic that is present in all these aspects is food and food-related behaviour. This means that the main question explored in this paper is as follows:

- How does a social system, including its individual members, adapt to radical changes, and what roles do food and ideologies play in this?

To explore such forms of changes and adaptations, we will direct our focus to one example. This example is a small island in the North Atlantic between the American and Eurasian tectonic plates. Illustrating such sociocultural changes in Iceland, we will examine recent and historical developments, explain their causes on economic and ecologic grounds, and the subsequent consequences for the respective society and its members. The relationship between ecological, economic and ideological factors – and the role of food in all this – is further demonstrated by one specific item and the relevant activities surrounding it: whale meat. Focussing on certain particularities that changed the country on both the macro and micro scale in the last 150 years, such as the modernisation process of the 20th century, the financial crisis and the ensuing tourism boom or in general globalisation, we will explore their consequences on social organisations, population development, demographics, and even perceptions, meanings and beliefs.

Structure of the Thesis

Starting with the necessary theoretical background, Chapter 3 is aimed at creating a basic understanding of humans, culture and the mechanisms of sociocultural systems and changes. It is about the understanding of processes that are constantly taking place in every social system in the world, about the people and their behaviour, and even about the meanings that underlie all cultural events and traits.

The story of Iceland comes into play in Chapter 4 when we begin with the examination of the given natural environment and the island's historical background, which are essential features for explaining traditional foods and food-related behaviours, along with the role of whales in all this. This chapter is crucial in order to understand the following sociocultural developments, which will be elaborated upon in the subsequent chapters.

After detailing the situation that remained approximately the same for nearly a thousand years, Chapter 5 explores the rapid changes the nation faced toward the end of the 19th century. With the processes of modernisation and industrialisation and Iceland's sudden access to them came a societal transformation that affected not only the economic system, but the whole society in all its facets including demographic and consumption patterns, as well as the national and international use and meaning of whales.

Following this chapter, we move to more recent developments and direct our focus to recent decades, starting with economic and ecological factors such as the financial crisis in 2008 and the Eyjafjallajökull eruption in 2010, and the immediate consequences for both people and whales. These events serve as the best examples of how individuals and societies as a whole react to drastic changes in the form of rapid cultural adaptation.

Chapter 7 follows these rather recent developments further, concentrating on the time when Iceland was hit by the tourism boom, which supported the nation in the recovery from the crises. The enhanced international influence as part of an increasingly globalised world not only affects production and consumption patterns, but also lifestyles and values – including the value and functions of whales in a new economic and even ecological context.

Finally, Chapter 8 explains the effects such changes have on other parts of the social system, especially in regard to non-material aspects. Through this lens we will investigate how values, norms and beliefs can change, and how this has a function in reinforcing the whole process.

After this analysis of sociocultural traits and changes in Iceland and its thorough conclusion in Chapter 9, we will go further to explain yet another mode of production – the production of this thesis. An outline of all the background information, including the methods and data used, can be found in Chapter 10.

Furthermore, the appendix, Chapter 13, after the list of references and the list of figures (Chapter 11 and 12), entails an illustration of the most relevant aspects and factors concerning our example that either condition change or are subject to change, which can be used to look up and further explore the many complex relations in and around Iceland in a comprehensible way.

3 Mechanisms of Sociocultural Change

Before we dig into the historical as well as the recent developments in Iceland and what they meant for the population, we first need an introduction to the theoretical concept of social systems, their components and how they are interconnected and ultimately change. This is because in order "[t]o understand fully the relationship between the particular and the general, we must have full knowledge of both." (Lett, 1990, p. 133) Therefore, let us start with the general before we continue on to the particular.

3.1 Key Terms and Concepts

For the following theoretical examination, we use specific concepts of certain key terms, which will be clarified in this chapter. These terms and definitions are crucial for an understanding of the following chapters, especially because they are often used synonymously in reality.

Culture

Culture is obviously a key term in a field bearing the name of social and cultural anthropology. Nevertheless, many social and cultural anthropologists are unable to give a proper definition of it. For a comprehensive understanding of the concept of culture, let us start at the very beginning.

Human beings, like all other living beings, are adapted to their habitat and even exercise some control over their environment so that life can be made secure, and their species can be perpetuated. We have the same means of biological adjustment and control as any other animal being. (White, 1969 [1949], p. 110) But evolution brought human beings – and only human beings – a new and distinctive ability: the ability to use symbols. The most important form of symbolic expression is articulate speech. With this, ideas can be transmitted from one human organism to another and meaning can be bestowed upon physical things or events, which eventually turns to a symbol. (ibid. pp. 139-140)

This ability has resulted in the genesis of a new order of phenomena – a cultural order. Since its elements are being transmitted, culture becomes a continuum. Imagining it as a stream, it can flow down through time from generation to generation and laterally from person to person and from habitat to habitat. New elements regularly enter this stream, which makes the culture process also cumulative, while other traits become obsolete and drop out of the stream. And finally, it is progressive in the sense that it moves toward greater control over the forces of

nature, which means greater security of life for people. (ibid.) In the end, one can say that "[c]ulture is a mechanism for serving the needs of man." (White, 1959a, p. 40)

To sum up, culture is a symbolic, continuous, cumulative and progressive process. It is a network of information and comprises acts (patterns of behaviour), objects (tools, and things made with tools), ideas (belief, knowledge) and sentiments (attitudes, values) – all of which are dependent upon the use of symbols. (White, 1969 [1949], pp. 139-140) Thus, "[i]t was articulate speech that transformed the non-progressive tool-using of the ape into the progressive, cumulative tool-using of man, the human being." (ibid. p. 34) Even though animals may receive new values and can even acquire new meanings, what they cannot do is create and bestow them. (ibid. p. 29) It was the exercise of this symbolic faculty that brought culture into existence and it is the use of symbols that makes the perpetuation of culture possible. Without the symbol there would be no culture. (ibid. p. 33)

Although originally made possible only by the organism of human beings, once in existence and under way, culture has a life of its own. Culture is a continuum of interacting elements, and this process of interaction has its own principles and laws. This makes culture a thing *sui generis* – it must be explained in terms of itself. Its behaviour is determined by its own laws, not by the laws of human organisms and has therefore an extrasomatic character. (ibid. pp. 140-141) The human organism belongs to another realm. Overall, the world has three qualitatively distinct levels or strata of phenomena. Culture is part of the superorganic realm, in contrast to the inorganic (physical) or the organic (biological). This distinction means that their component parts are organised in a completely different manner. The inorganic is composed of non-living phenomena or systems and thus characterised by atoms, protons, electrons, waves or other units; whereas the organic consists of living organisms and is characterised by the cell. In contrast, cultural traits are not transmitted biologically but by mechanisms of social hereditary. This realm is made up of events that are characterised by symbols, and include ideas, beliefs, languages, tools, utensils, customs, sentiments and institutions. (White, 1969 [1949], p. 15)

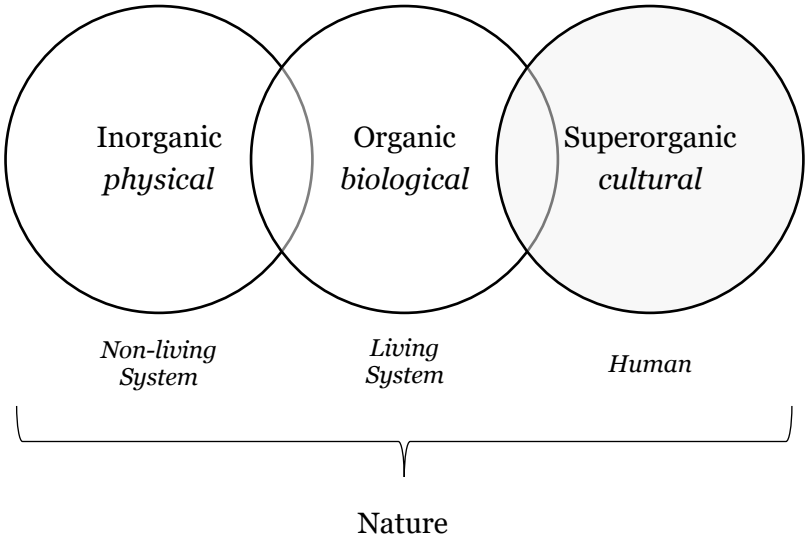

Figure 1: Three Levels of Ontology

Society

Human beings exist in groups as well as individually. The term "society" is hereby often used as a collective name for a group of individuals. Nevertheless, "[a] society is more than a mere aggregation of individuals; it is an organization, a system." (White, 1959b, p. 205) A system is a whole, composed of interrelated parts. And "[b]y *social system* we mean the whole network of relationships among the individuals of a distinguishable group." (ibid. p. 142) A society is thus the individual parts plus relations and connections between these parts. But with the change of the quantity, the quality ultimately changes too. This is called "the phenomenon of emergence" and means that "[t]he whole is more than the sum of its parts and cannot be reduced to them." (Harris, 1999, p. 51) The units of analysis, therefore, are institutions and processes that govern society and not the individual members of it.

Social relationships between the individual parts are determined by the relationship of part to whole. (White, 1959b, p. 205) This means that they are determined by the culture of the group: by the ideas, sentiments, tools, techniques and behaviour patterns which, as we now know, are dependent upon the use of symbols and are handed down from one generation to another. (White, 1969 [1949], p. 328) A society is nothing other than a network of interrelationships among human beings, which is a function of its extrasomatic tradition (culture), along with biological and environmental factors. (White, 1959b, p. 213) Such an organisation of relationships is only a form of behaviour in order to maintain the living character of the component material bodies, which means that it is "[…] merely the interorganismal aspect of nutritive, protective and reproductive behavior." (ibid. p. 208)

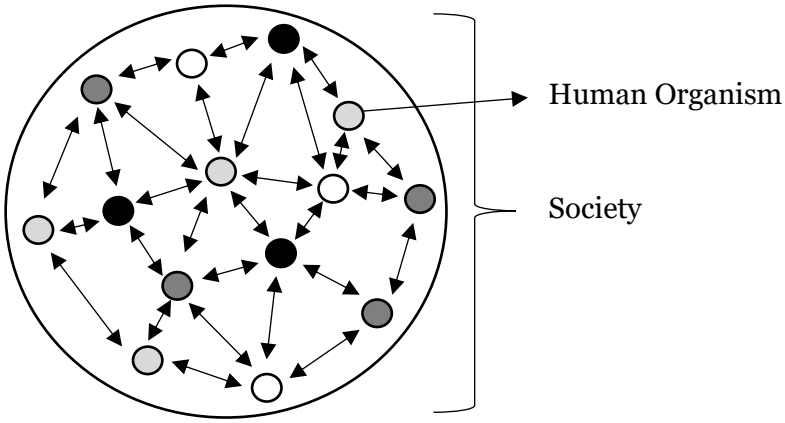

Figure 2: Society as a Network

The first social systems were local territorial groups, composed of families. (ibid. p. 144) Every social system is a complete and autonomous whole which is composed of different parts, each of which are related to all the others. These parts are the individuals, segments (e.g., families, lineages, clans, moieties…), and classes (e.g., sex, age, profession…). (ibid. p. 205) And just like organic aggregates, social aggregates grow, and as they increase in size they increase in structure. As population augments, divisions and subdivisions become more numerous and more decided. (Spencer, 1967, p. 3) "A larger population, involving a greater demand for every commodity, intensifies the functional activity of each specialized person or class; and this renders the specialization more definite, where it already exists, and establishes where it is nascent." (Spencer, 1972, p. 50) This leads to the result that the society becomes more differentiated structurally and more specialised functionally. Continued growth involves the un-building and re-building of structure. (Spencer, 1873, p. 45) "Socially, as well as individually, organization is indispensable to growth: beyond a certain point there cannot be further growth without further organization." (ibid. p. 43) Originally simple, it slowly subdivides into more and more parts, and becomes an increasingly complex organisation. (ibid. p. 41)

Society as a whole undergoes continuous growth and increases in structure. Its parts become then more and more unlike. They become not simply different, but the differences are related as to make one another possible. This results in a mutual dependence of the individual parts. (Spencer, 1967, p. 9) Society eventually becomes an increasingly complex body with a minute division of labour and mutually dependent workers. (Spencer, 1972, p. 57)

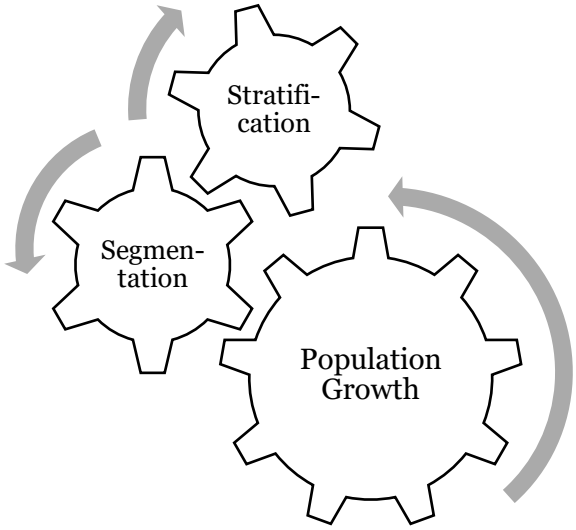

Figure 3: Progress of Social Systems

Humans

After examining what culture and what a society is and how they differ from each other, we still need to clarify another key term – which is nothing less than us as human beings. To recall, "[c]ulture began when man as an articulate, symbol-using primate, began." (White, 1969 [1949], p. 140) Culture is what makes a human being a human being. Culture is also what makes an accumulation of human beings a society. Even though culture, just like society, cannot exist separate from human beings, it still exists independently of them and follows its own laws. This gives it "[…] a life of the whole quite unlike the lives of the units, though it is a life produced by them." (Spencer, 1967, p. 7) Although we say that culture and its variation must be explained in terms of its own elements and processes, we do not mean that it is an entity that exists separate from people. Culture is obviously inseparable from human beings. But a person behaves the way he does "[…] because he has been born into, or at least reared within, an extrasomatic tradition that we call culture which contains these elements. A people's behavior is a response to, a function of, their culture. The culture is the independent, the behavior the dependent, variable; as the culture varies so will the behavior." (White, 1959a, p. 241)

We now know that a social system is more than the sum of its parts; hence, it is more than a simple accumulation of human organisms. In addition, the whole also determines the nature of its parts. And these parts cannot be understood if considered in isolation from the whole. (Harris, 1999, p. 51) Human behaviour is therefore a function of the biological organisms and the extrasomatic cultural tradition or process. Individuals are more or less aware of some of

the determinants of their behaviour, but of others they are quite unaware. (White, 1969 [1949], p. 161) Even though all humans can yawn, sleep and breathe independently just like any other biological organism, no one can think, act or feel as an independent organism. We can only do so as a part of a sociocultural system. (ibid. p. 171) This means that, as we all are reared in a specific system containing specific cultural elements, we behave accordingly. Therefore, every individual is automatically subject to sociocultural stimulation from the group in which they are reared. Everything the individual does is a function of this specific group and this organism. Any human act, even though it is expressed through one individual, is ultimately a group product. (White, 1959a, p. 244) "The individual becomes then the locus of the culture process and the vehicle of its expression." (White, 1969 [1949], p. 165)

It is clear that even though we are part of a social system, we also strive to survive as a human biological organism. The desires inherent in an individual organism are exercised to serve its own interests. The same applies for social systems. In order to survive, a social system must protect itself from the demands of the individual and serve its own interests. It must influence or control the behaviour of its component members. This is done by encouraging "good" behaviour and discouraging the "bad". "Conscience is merely our experience and our awareness of the operation of certain sociocultural forces upon us." (White, 1969 [1949], p. 156) Right and wrong originate in social systems, not in individual biological organisms. Our conscience is therefore of sociocultural origin – it is the operation of supra-individual cultural forces upon the individual organism. (ibid.) The existence of the society at large usually exceeds in duration that of some of the compound parts. This means that the integrity of the whole is maintained, as is that of each large division, notwithstanding the deaths of individuals. But it is also possible that the life of the aggregate may be destroyed due to a catastrophe, without immediately destroying the lives of all its units. (Spencer, 1967, pp. 6-7) "Life and development of a society is independent of, and far more than prolonged than, the life and development of any of its component units." (Spencer, 1972, p. 57)

To sum up, we human beings are only human beings because of our ability to use articulate speech. It was exactly this emergence that made it possible for us to use symbols. And this symbolic faculty is what created culture – a network of behaviours and objects, but also ideas and sentiments, which has a life independent of us, their users. When several human beings are formed into a group and relations between them are created, we can speak of a society. But when such a group increases in size, their structure increases too – leading to further stratification and segmentation of the society. And the role of the individual in all this is being "[…] (1) a catalytic agent that makes the interactive culture process possible, and [being] (2) a medium of expression of the culture process." (White, 1969 [1949], p. 181)

3.2 The Basic Principles of Social Systems

With these definitions of the key terms in mind, we are now able to turn to the explanation of how exactly any social system works. Let us start by considering the most important determinant – the natural environment surrounding us.

The Role of the Ecosystem

As we know, every human being is born into a social system operating within a given environment and consequently belongs to one cultural group of people, who share the same basic but also unique pattern of behaviour. (Sutton & Anderson, 2004, pp. 90-91) The highest priority of every social organism is to keep itself alive. This is equally true for every individual human organism and is ultimately dependent on the immediate natural environment, which consists of physical, chemical and biological components. Aspects such as geography, arable land, water, climate, along with the abundance of plant and animal life are all part of this environmental foundation. (Elwell, 2013, p. 27) It is therefore necessary, not just to include the environmental context in the explanation of social systems, but to start with it. This environmental context or, more specifically, the system of relationships among the social and individual organism in an environment, is called the "ecosystem". (Harris, 1975 [1971], p. 233)

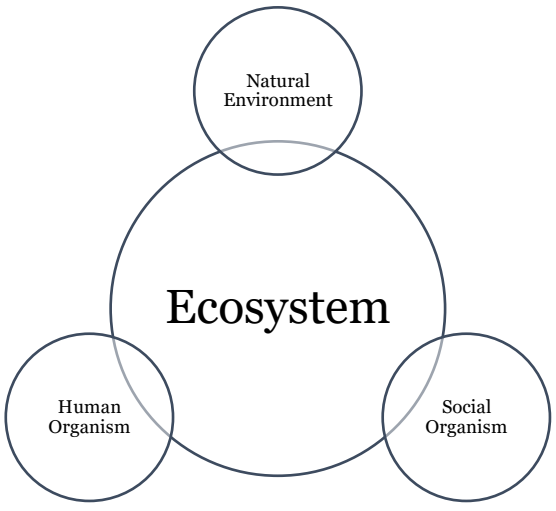

Figure 4: The Ecosystem

Like all living organisms, human beings must obtain energy from their environment. But the energy patterns of any ecosystem in which a social system participates are unique. While it consists of organic and inorganic components, the most influential feature of the energy flow is the way in which human metabolic food energy is obtained from the available flora and fauna. (Harris, 1975 [1971], p. 233) We as humans must eat and drink; thus we ingest water,

calories and certain nutrients. We must be protected from the elements. And we must defend ourselves from our enemies. These things are necessary if we want to survive. All human life and culture rest and depend upon it. (White, 1969 [1949], p. 365) And for this, individual human beings manipulate their surroundings with the help of others, not only to make life secure for them, but also to perpetuate their group and humankind as a whole. (Elwell, 2013, p. 27)

In contrast to animals, the primary mechanism for human organisms to deal with and adapt to their natural environment is culture. “No longer was it necessary for the human animal to acquire new powers and techniques through the slow process of biological change; he now had an extrasomatic mechanism of adjustment and control that could grow freely of itself.” (White, 1969 [1949], p. 390) Culture is therefore used to harness and control energy from the given habitat. And this is attained primarily by technological means.

But in order to deal with the given habitat and perpetuate its kind on an individual and a collective level, some sort of technology which is required, along with some sort of organisation. (Sutton & Anderson, 2004, p. 90). “It is through population and production technologies that a society manipulates its environment by modifying the amount and type of resources needed for the survival of its population.” (Elwell, 2013, p. 38) This means that the physical and geographical conditions of the given habitat (such as soils, topography, rivers, lakes, seashores, forests or climate) lead to certain types of systems to provide food in the most efficient way. (Fieldhouse, 1995 [1985], p. 17) Such technologies can include the exploitation of fire, wind or water, for example, but also extend to the domestication of animals and plants, the division of labour or the use of fertilisers, the plough or insecticides. (Elwell, 2013, p. 38) No matter what kind of technology is used, it must be tailored to the specific natural environment. Similar kinds of technologies in different environments may entail very different amounts and types of labour. This has further consequences for the social structure and the system of economic management of a social system. (Harris, 1975 [1971], p. 231)

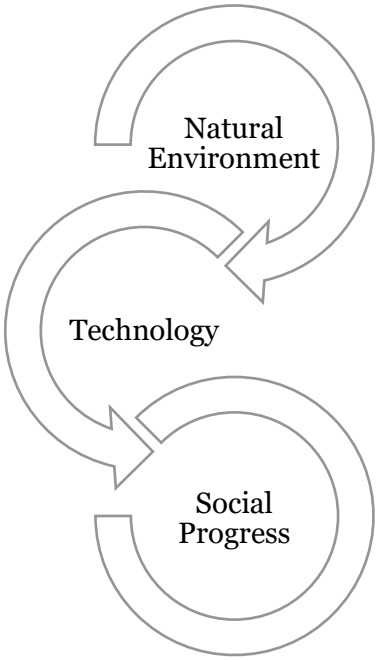

Figure 5: Technology as the Interface

"In that process, the sociocultural system as a whole moves toward a balance between reproduction and the consumption of energy from a finite environment." (Elwell, 2013, p. 27) The amount of food and other goods produced by the expenditure of a given amount of energy must be proportional to the efficiency of the technological means with which the energy is put to work. (White, 1969 [1949], p. 368) This means that the overall base for various food behaviours lies in the productivity of the habitat of a given population. Even though it is dependent on the existing biomass, it is still a function of both natural and cultural conditions, which manage the proportion of biomass accessible in the given habitat. (Ross, 1978, p. 15) When the extracted energy per capita per year increases while other factors remain constant, societies evolve. Social evolution is therefore a function of technological development. (White, 1959b, p. 144) If culture is to advance beyond the limits of maximum technological efficiency and the energy resources of the human body, it must devise new ways to harness additional amounts of energy by tapping into natural resources in some new form. (White, 1969 [1949], p. 369) Thus, the economic system, or in actuality the whole social system, is dependent on the abundance of edible items and the effectiveness of extracting and preparing them. (Katz, 1990, p. 237)

But in the same way that the habitat and the deduced economic variables (such as the organisation of goods and services, including their production, distribution, and consumption) play a role, so do demographic variables like population size and density, sex ratio, age

distribution and fertility control. (Harris, 1975 [1971], p. 233) The specific system, including the necessary technological advancement, leads to specific forms of social organisation in order to support and enhance it. (Fieldhouse, 1995 [1985], p. 17) This means that factors such as environment, production technology, population and labour are all interrelated and further affect other components of the sociocultural system. (Elwell, 2013, p. 38) The ecological and socioeconomic context, consisting of the relationship between physical environment, subsistence strategies, technological progress and the population itself (inclusive of demographic, social and political relationships), therefore needs to be considered in our explanation.

Thus, "[m]an as an animal species, and consequently culture as a whole, is dependent upon the material, mechanical means of adjustment to the natural environment." (White, 1969 [1949], p. 365) This means that social systems "[…] are but the social form of expression of technological control over the forces of nature." (White, 1959b, p. 144) Of key importance are the amount of energy exploited and the efficiency of the technological means with which energy is harnessed and put to work. In this sense, culture becomes primarily "[…] a mechanism for harnessing energy and of putting it to work in the service of man […]." (White, 1969 [1949], pp. 390-391)

The Hierarchical Order of Societal Components

We have now learned that any social system must extract energy from its habitat and transform it into material goods and work. This requires some kind of organisation. (Sahlins & Service, 1970 [1960], p. 35) In order to explain a social system and its survival strategies, it is not enough to only consider environmental conditions such as soil characteristics, topography, rain, temperature, the characteristics of crops and so on. Thus, even though cultural phenomena, such as food items and habits, are usually rooted in the habitat, "[…] culture is not merely a reflex response to habitat, nor a simple and direct manifestation of 'human nature'." (White, 1969 [1949], p. xviii) Other aspects, such as technological, economic, political, and ideational aspects, are also of importance and must be included. But "[i]t is unlikely that the various factors related to food behavior constitute a potpourri of equally weighted causes, and thus there may be a hierarchy […]." (Roosevelt, 1987, p. 566)

Let us now bring the various factors, such as natural environment, technology and organisation, together into one comprehensible model, which is used in human-ecological and macro-sociological approaches. This model consists of three layers – the material, the structural and the ideational. As we now know, the foundation of any social system is the natural environment. Each society must adjust to their habitat, consisting of various factors

including soil types, the nature of plant and animal life, and the availability of natural resources. And these adjustments take place through technology and organisation, which we now include in the first layer – the material layer, also called "infrastructure". The infrastructure is the principal interface between a social system and its environment, wherein lie the material conditions of human life, including the strategies to deal with it. This includes the way in which a social system produces necessary items such as food, tools or shelter, along with the involved technologies. (Murphy & Margolis, 1995, p. 2) "[…] [I]t consists of all behaviours that regulate population as well as those behaviours involved in the production of food and other necessary goods." (Elwell, 2013, p. 27) We can therefore subdivide this layer into (1) the mode of production, which consists of material and social technologies like the division of labour, which is concerned with the required subsistence strategy, and (2) the mode of reproduction, which comprises of demographics including the behaviours, technologies, and conditions linked to reproduction, such as mortality, mating patterns, fertility, contraception and even abortion. (ibid.) To make a long story short, the material conditions of a social system are nothing more than the way in which human beings survive and reproduce in a specific setting. (Murphy & Margolis, 1995, p. 2)

The second layer is a society's "structure", i.e. the social and political organisation. This includes the various forms of familial and nonfamilial organisations and associations found among human populations, as well as the political structures that organise human social life. (ibid.) You can divide the second layer into (1) the domestic economy, including family structure, domestic division of labour, domestic socialisation, enculturation, education, age and sex roles, domestic discipline, hierarchies, sanctions, and (2) the political economy, which includes political organisation, factions, clubs, associations, corporations, division of labour, taxation, tribute, political socialisation, enculturation, education, class, caste, urban, rural hierarchies, discipline, police/military control and even war. (Harris, 2001, pp. 52-53)

The final and top component of a social system is the ideational layer, or the society's "superstructure", which is a system of secular and religious ideologies and values. Superstructure denotes the realm of values, norms and rules, aesthetics, beliefs, rituals, symbols, philosophies, religions and other forms of knowledge, which can be found in any society. (Elwell, 2013, p. 13)

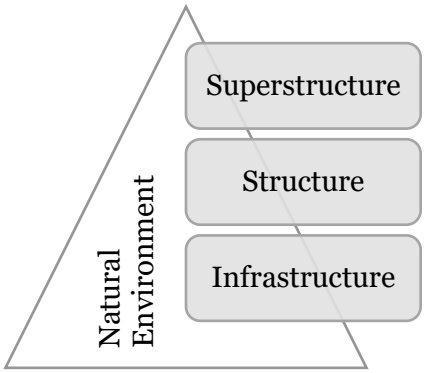

Figure 6: The Three Layers of Social Systems

To be more precise, all three layers have additional mental/behavioural and emic/etic aspects. What we have now elaborated is the etic behavioural aspect, which is characterised by its logical deduction. This means that the structure can be deduced from infrastructural constraints and the superstructure of infra- and structural constraints. The emic mental aspect, in contrast, is about the insider's view and their motives for doing something, which are not always rooted in any causal adaptation or constraint. (Harris, 2001, p. 54) This emic-etic distinction will be further elaborated in Chapter 3.5.

The emic mental components can be classified in the following way (ibid. pp. 53-54):

Etic Behavioural	*Emic Mental*
Infrastructure	Ethnobotany, ethnozoology, subsistence lore, magic religion, taboos
Structure	Kinship, political ideology, ethnic and national ideologies, magic, religion, taboos
Superstructure	Symbols, myths, aesthetic standards and philosophies, epistemologies, ideologies, magic, religion, taboos

Harris (2001, p. 54) suggests combining all these emic mental components into one superstructure, which leads to four major universal components of sociocultural systems: the etic behavioural infrastructure, structure, and superstructure on one side, and the emic mental superstructure on the other. The etic behavioural superstructure consists of behavioural forms such as art, music, dance, literature, advertising, rituals, sports, games, hobbies and science, whereas the emic mental superstructure includes certain rules, plans, cognitive goals, categories, beliefs, philosophies, values, ideologies, symbols, religion, myths, magic and taboos, which can be conscious or unconscious. This means that we have three layers but four

major components: behavioural infrastructure, structure, and superstructure, and the mental superstructure.

(1)	etic behavioural infrastructure
(2)	etic behavioural structure
(3)	etic behavioural superstructure
(4)	emic mental superstructure

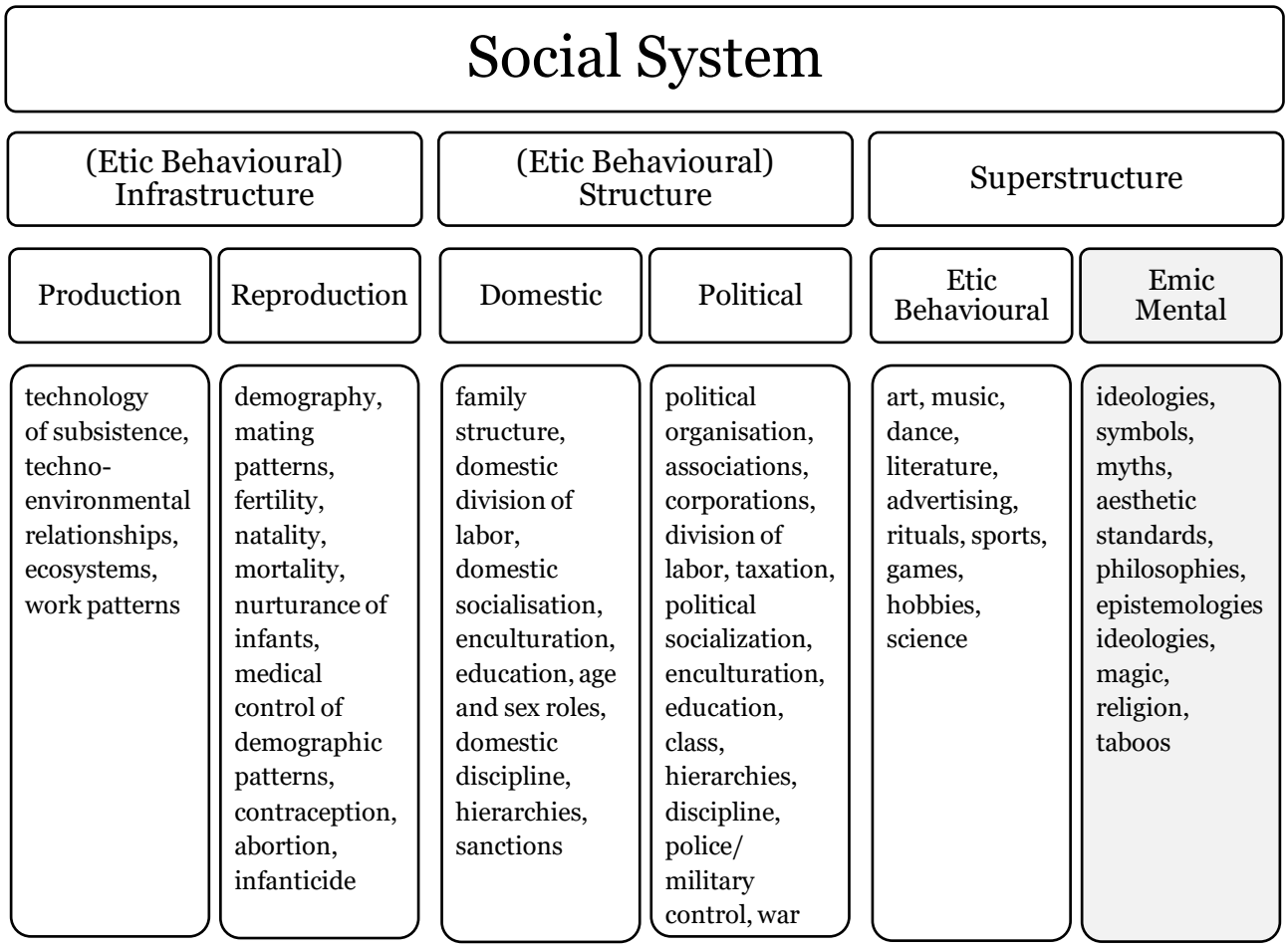

Figure 7: Components of a Social System (based on Harris 2001, pp. 52-54)

"These three categories comprise the system of culture as a whole. They are, of course, interrelated; and each reacts upon the others and is affected by them in turn." (White, 1969 [1949], p. 365) A social phenomenon – such as foodways – therefore cannot be analysed in isolation from the economic, political or religious institutions of a society. All aspects of a sociocultural system are functionally interdependent upon one another. (Steward, 1973 [1955],

p. 37) All levels are in a continuous dynamic state, and there are significant and predictable relationships between them. (Murphy & Margolis, 1995, p. 2) But the influence of this mutual interaction is not equal in all directions. Changes in the infrastructure of a social system are first and foremost the result of changes in the relationship between a group of humans and its natural environment. And "[…] over time, changes in a society's material base will lead to functionally compatible changes in its social political institutions (structure) and in its secular and religious ideology (superstructure)." (ibid.)

This asymmetrical model is based on Karl Marx's idea that production ratio builds the economic structure of a society, thus the real basis on which a juristic and political superstructure is built, forming the social consciousness. "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], pp. 20-21). Spiritual processes or human consciousness are part of the ideational layer, or, as we call it here, the (emic mental) superstructure. This does not mean that only material conditions are relevant in the explanation of a sociocultural phenomenon, but that the material conditions are primary factors affecting social structure and superstructure. (Elwell, 2013, p. 28)

> "It is not that social structures and cultural ideas do not matter in the analyses of these materialists; they are, in fact, critical in both affecting and motivating human behaviour. Rather, for the materialist, it is a matter of first principles: material conditions cause certain structures to arise and endure; material conditions allow particular ideas and not others to gain widespread acceptance. These conditions are not the only determining factors, but they are often the ultimate cause. The various elements of other parts of the sociocultural system—structures and culture—also exercise their influence on the course of human events (including material conditions), but such influence is secondary to material conditions." (Elwell, 2013, p. 38)

Although the infrastructure and subsequently the structure of a society clears the path for the superstructure, the latter is not passive. "This is not to say, of course, that social systems do not condition the operation of technologies, or that social and technological systems are not affected by philosophies. They do and are. But to condition is one thing; to determine, quite another." (White, 1969 [1949], p. 366) Indeed, structural and superstructural features have great influence on the stability and change of sociocultural systems through interconnections or so-called "feedback loops". This means that the influence not only travels from the bottom to the top, but that there is constant feedback coming from above, which turns the system into a self-reinforcing chain of cause and effect. (Elwell, 2013, p. 27) Values, beliefs, and rules are therefore crucial elements for the function of a society. They contribute actively to the continuity and change of infrastructures, "[…] but only within the limitations and possibilities of the given demo-techno-econo-environmental conditions." (Harris, 1994, p. 70)

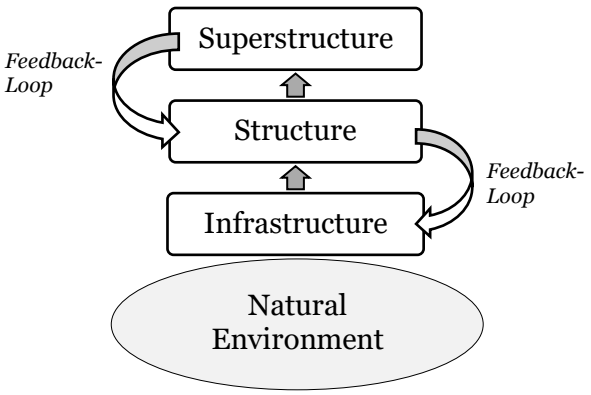

Figure 8: Feedback Loops

In conclusion, every social system follows the same basic principles. Human beings must harness energy from the given natural environment, which consists of unique ecological factors. This is primarily carried out by technological means. An increase in the amount of extracted energy results in social progress. Using a universal model, it is through production and reproduction mechanisms (included in the material or infrastructural layer) that societies deal with the surrounding natural conditions. This specific way of dealing with the environment leads to specific forms of social organisation or structures. Therefore, the infrastructural layer conditions the structural one, which consists of domestic and political organisation. This in turn shapes other components of the social system, such as norms, values, beliefs, which are part of the superstructural or ideational layer. To be more precise, they belong to the emic mental superstructure, whereas elements like art, music, literature – even science itself – belong to the etic behavioural, just like the infrastructure and superstructure, which are all rooted in logical deduction. All these components are equally important for a social system and are in constant interaction. And even though the structure and superstructure are not the main determinants of social progress, they provide the necessary support and reinforcement through feedback loops.

3.3 Transformations and Adjustments

We have now elaborated that individual organisms, such as social systems, are dependent upon the technological means of adjustment to the natural environment and that a social society is a system with a causal order, consisting of material conditions, some kind of organisation and ideological support, which are in constant interaction. This is universally true for any social system. But if all humans are biologically the same, and all societies follow the same principles, why are there so many differences between the various systems?

Mechanisms of Adaptation and Social Progress

The first thing that concerns the human organism is to survive. The same applies to social organisms. For the survival of the individual as well as the collective, you need to adapt to your surroundings. Nothing in this world is static; consequently, neither are the individual components of a cultural group, nor its given habitat. Certain changes in a sociocultural system can be caused by external factors. Therefore, people have had to "[…] adapt to enormous environmental diversity of Earth through culture, an immensely flexible and adaptive mechanism that other animals lack." (Sutton & Anderson, 2004, p. 1)

When external factors, such as environmental conditions, change, some sort of response is indispensable. For most organisms, this response is purely biological and ultimately regulated by natural selection. For humans, however, this response can be both biological as well as cultural. The biological form of adaptation includes evolutionary changes in the gene pool of a population, thus shifting the genetic "information" pool of the individual biological organism. "But cultural traditions, practices, and knowledge form a 'cultural information pool', which complements and supplements the 'biological information pool', and these processes of interaction form a dynamic equilibrium over time in any particular ecosystem." (Katz, 1987, p. 135)

Superorganic, or cultural, adaptation, in contrast to organic (genetic) adaptation, has the advantage that it is a mechanism which can act in much shorter time, because it requires no physical modifications. (Sutton & Anderson, 2004, p. 9) Genetic adaptation requires many generations to become established at any significant level, whereas superorganical adaptation is an extremely flexible and rapid adaptive mechanism because behavioural responses to external environmental forces can be acquired, transmitted and modified within the lifetimes of individuals. (ibid. p. 91). In a nutshell, it can be affirmed that "[c]ulture is a way in which groups of people can adapt to the environment through collective behavior and/or technology." (ibid. p. 9) The infrastructure hereby offers the interface between nature in the form of unalterable physical, chemical, biological, and psychological constraints on the one hand, and culture, which is Homo sapiens' primary means of optimising health and well-being, on the other. (Harris, 1994, p. 68)

Such changes in the environment, even if they are small, appear constantly. To maintain an equilibrium, people have no other option than to make constant adjustments with an interplay between cultural practices and biological adaptations. One example is the way in which people have adapted over a long time of period anatomically to cold climates but still make and wear coats. "A variety of cultural practices can 'mitigate' the impact of environmental change and so 'level' environmental differences." (Sutton & Anderson, 2004, p. 91) Of course, any problem has multiple possible solutions. But when the best solution available is found, one could say

that people are well-adapted. Thus, "[a]daptation, the securing and conserving of control over environment, is the orienting process of the specific evolution of both life and culture." (Sahlins & Service, 1970 [1960], p. 45)

As elaborated above, other initial factors which provoke social change include an increase in the amount of energy harnessed per capita per year, and the increase of efficiency in the use of technological means to harness energy. (White, 1969 [1949], pp. 368-369) Big societal changes – for example, the transformation from hunting-gathering to agrarian, from agrarian to industrial, or from monarchies to democracies – had their origins in changes in the environment, the population, technology, and division of labour. (Elwell, 2013, p. 37) Social progress is therefore a mode of change; it is "[…] not an accident, not a thing within human control, but a beneficent necessity." (Spencer, 1972, p. 52) Social changes are thus parts of the general developmental process.

> "All societies must live within the changing constraints of their environments, changes that occur as a result of both human activities and natural processes. The process of adapting to changes in the natural and social environments begins with the individual and the modifications that individuals make to their productive and reproductive practices. When large numbers of people within the population make similar adaptations, these create patterns, which in turn affect institutional structures (primary and secondary groups) and cultural superstructures (ideas, values, and ideologies)." (Elwell, 2013, p. 88)

Such changes and responses are thus not simple relations between people, things, and environment – they include belief systems as well. (Plattner, 1989, p. 385) Culture therefore provides not only the technology for appropriating nature's energy and putting it to service, but also the social and ideological means of implementing the process. (Sahlins & Service, 1970 [1960], p. 24) This societal progress leads to various forms of social organisation as well as different values, norms and rules, which is nothing other than that which what was explained earlier: apart from the natural environment as the foundation, the infrastructure is the initial cause of changes in the structure and ultimately the superstructure of a social system.

Cost-Benefit Optimisation

"Every human population creates, perpetuates and participates in an information system that evolves through time in an attempt to maintain a dynamic equilibrium among the ecological, sociocultural, biological, and demographic variables within the human ecosystem." (Katz, 1990, pp. 237-238) Food is a principal variable in the maintenance of this equilibrium.

In order to explain aspects of behaviour related to the utilisation of resources, usually on a least-cost basis, so-called optimisation or adaptive models are used. Originally developed by economists, and finally used by biologists and zoologists for the understanding and explanation of animal behaviour in relation to their diet, especially food selection, it should

predict how an animal chooses a diet with the best cost/benefit balance. For this, evolution produces efficient systems to ensure that food choices are made in accordance with the given environmental conditions. In the case of animals that adopted an inadequate diet, it is assumed that changes happened in a way so rapidly that the adoption of a new diet was not possible. (Armelagos, 1987, p. 582)

Applied to human beings, we can explain how people adopt optimal behaviours to maximise their reproductive success. Superorganic optimisation and adaptation must in the first and last instance conform to the restraints and opportunities of the environment and of human nature. (Harris, 1994, p. 68) The optimal behaviours are mostly limited to the diet and are "[…] based on the premise that, in the long run, one must 'make' more than one 'spends' to survive, a cost-benefit formula that is obviously true." (Sutton & Anderson, 2004, p. 68) As every human being needs to consume nutrients to sustain its own life, it is equally important to sustain the social system. "A basic tenet of the adaptive model is that a food procurement system must meet the essential nutritional requirements necessary to maintain and reproduce the population." (Armelagos, 1987, p. 579) In this way, different preparation methods can complete and balance biological circumstances, including genetic adaptation to the environment. Cooking methods are therefore obviously cultural, but still subject to biological factors. (Katz, 1990, p. 237)

Human dietary behaviour was used for the process of adaptation on all levels – including genetic, physiological, and cultural. "Most populations have relied upon adaptations that alter cuisine and food choice rather than human biology." (Chrzan, 2013, pp. 52-53) Culture, or in this case the preparation of food, is thus still the primary driving mechanism, as it is more rapid and flexible than genetic adaptation, as we examined earlier. But the opposite effect is also observable – that human populations have undergone physiological modifications in response to new foods, e.g., lactose tolerance. (Pellett, 1987, p. 252) Thus, adaptation and progress can occur in both realms – the organic and the cultural.

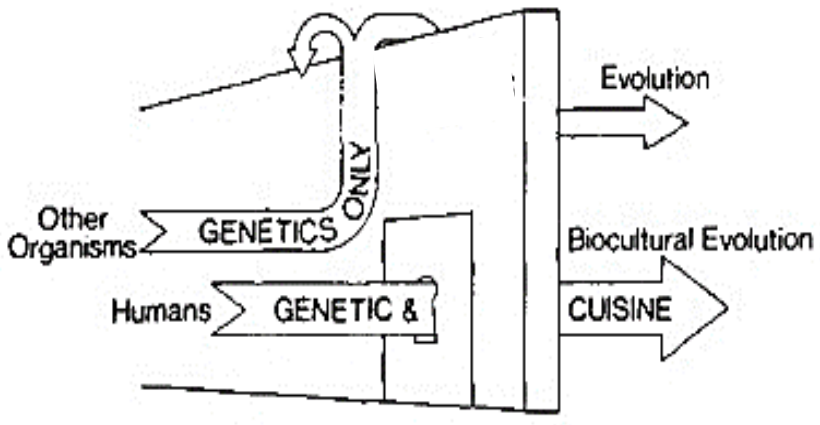

Figure 9: Culture as the Most Rapid Way of Adaptation (Katz 1990, p. 254)

In general, no society eats all edible items available to it. “In every society, there are rules – usually unwritten – which specify what is food and what is not.” (Fieldhouse, 1995 [1985], p. 32) In order to understand why certain elements are consumed, while other equally edible items are not, we must consider aspects such as abundance and seasonality, but also the time and energy costs involved in obtaining them, and nutritional value (e.g. protein efficiency, calories, trace elements, vitamins). Considering all these factors, some edible plant and animal species are more useful than others and therefore some are neglected in order to optimise the cost/benefits of production and the maintenance of nutritional standards – even though they are perfectly edible. Optimal foraging models indicate that the exploitation of both plant and animal species that would decrease the average calorie cost/benefit ratio will not be gathered or hunted. By concentrating on species that contribute highly to an optimal diet, energetic efficiency can indeed be maximised. (Harris, 1987, p. 74) Preferred foods usually have a more favourable balance of practical benefits over costs. This can mean, for example, that they simply contain more energy, vitamins, proteins or minerals than avoided foods. (Harris, 1985, p. 15) Thus, for a varied, nutrient-rich, adequate and safe diet, every social system must contain rules and guidelines (Sutton & Anderson, 2004, p. 62), with the design to encourage the good and discourage the bad behaviour, as earlier stated. This can finally lead to restrictions, which usually originate as adaptive responses to infrastructural conditions and enhance the material well-being of the population. (Harris, 2001, p. 243)

Thus, “tastiness” is not simply cultural arbitrariness, but a viable index of behaviour cost/benefits. (Harris, 1987, p. 74) There is a biological component accounting for the relationship between foods consumed and biological needs and processes. All these biological factors, including environmental conditions and nutritional values, are important factors regarding the development and evolution of cultural “knowledge”, for example the preparation of food. “Thus, culturally framed food habits serve to meet ecological, nutritional or economic ends.” (Fieldhouse, 1995 [1985], p. 17)

Hence, immutable factors can result in changes, to which humans must respond in some manner. As humans are both biological and cultural beings, their adaptation mechanisms can be also both in the biological and cultural realm. Cultural adaptation, through technological or infrastructural means, is nevertheless the most rapid and most efficient form. This essential cultural adaptation and the increase of its efficiency further result in social progress with consequences for other parts of the social system. One key factor in this interface between the cultural and the natural realm is food and food-related behaviour. Items that are edible are only used as foodstuff when they offer the best cost/benefit-balance. To optimise this balance, some items are utilised while others are ignored, which can change at any time if it is required.

Food preferences, or diets in general, are therefore not arbitrary, but serve as the most efficient way of harnessing energy from a specific natural and cultural setting.

3.4 Superstructure as a Function of Adaptation

We have now demonstrated that environments are never static, and neither is society. It builds in mechanisms for change. But the natural environment is not the only source of variables which modify and influence technologies. Other causes of diversity in technology must not be overlooked, because "[n]on-environmental factors associated with total political and economic organization are especially important among industrial cultures." (Harris, 1975 [1971], p. 230)

Changes in the natural environment just as in the modes of production (or infrastructure) of the respective social system, thus both ecological and economic factors, are followed by altered availability of food items. Even though food habits are learned early in life and are usually quite stable and long-lasting, they are still subject to change as a consequence of changing physical or social environments. (Fieldhouse, 1995 [1985], p. 6) "Food habits are part of this dynamic process [...] undergoing constant and continuous change." (ibid. p. 2) Economic variables play a vital role in this. Various studies in disciplines like archaeology and history have shown that diets have changed repeatedly – either by the introduction of new food items or new preparation methods or by changes in the economic and demographic contexts. (Roosevelt, 1987, p. 565) Therefore, when much is changing, dietary patterns have no other choice than to change too – in particular, radical food alterations are achieved by pressures on food production and consumption. (Ross, 1987, p. 15)

> "The very origin of the species is thought to have been related to changes in primate subsistence, and some of the major epochs of our cultural history are based on significant changes in food getting: from the hunting and gathering stage to the agricultural 'revolution'. Many scholars feel that changes in subsistence changed the trajectory of our history, and it is certain at least that our history has changed our food patterns." (Roosevelt, 1987, p. 565)

We can see the influence that various factors assert on food – not just environmental, but also infrastructural factors, including economic, technological, political, and demographic, which dictate what is produced and what consumed in a specific social context. But what we also want to discover is to what extent food patterns can cause effects in other aspects of a social system.

The Interrelatedness of Food using the Example of Sugar

One scholar concerned with changes to food habits and how they are connected to other parts of a society is the anthropologist Sidney Mintz. According to Mintz, "[t]he determinate 'cause' of such changes is a context, or a set of situations, created by broad economic forces; within

that context new food 'choices' are made – indeed are given shape before they are even perceived as choice." (Mintz, 1985, p. 181) For him, food choices are not based on individual preferences, but on the specific setting, including the environing economic, social, and political conditions. He uses the term "outside meaning", which simply describes the etic behavioural infrastructural and structural conditions of our social system model. He examines how a particular food item (sugar) was influenced by such "outside" conditions, and how other non-material aspects of a cultural group were affected by this. His explanation includes how sugar first made its way to Britain, why its use increased so heavily and what made its consumption so important – "[…] changing it (in this instance) from rarity, novelty, or bauble into absolute necessity." (Mintz, 1985, p. 179)

Mintz continues: "[t]he history of sugar suggests strongly that the availability, and also the circumstances of availability, of sucrose – which became one of the most desired of all edible commodities in the [British] empire – were determined by forces outside the reach of the English masses themselves." (ibid. p. 166) In Europe during the 18th and 19th centuries, profound changes in dietary and consumption patterns were observable which were not at all random, but rather directly created through the rise of a world economy "[…] and the tremendous productive and distributive apparatuses, both technical and human, of modern capitalism." (ibid. p. 158) Through the economic expansion of Britain's overseas territories, their colonies with cane plantations and the use of slave trade, increasing the proportion of imported sugar and decreasing its price became possible. (ibid. pp. 166-167) This "[…] began to be reflected in the form of changes in homeland consumption […] [and] the meanings of sugar in the life of the British people changed radically." (ibid. pp. 66-67) The use of sugar and its place in the British diet including the way they perceived it changed and spread radically. "Like tea, sugar came to define English 'character'" (ibid. p. 39)

> "This idea has little to do with nutrition or primates or sweet tooths, and less than it appears to have with symbols. But it is closely connected to England's fundamental transformation from a hierarchical, status-based, medieval society to a social-democratic, capitalist, and industrial society." (Mintz, 1985, p. 185)

Through changes on the infrastructural level, especially through changes in the modes of production, not only the use but also the meaning of this specific food item changed for a whole nation. And "[i]t was not by processes of symbol making and meaning investment that sugar was made available to the English people, but because of political, economic, and military undertakings […]." (ibid. p. 183)

Hence, Mintz shows that economic developments create new forms of foods and eating. "New behaviors are superimposed upon older behaviors; some behavioral features are retained, others forgone. New patterns replace older ones." (Mintz, 1996, pp. 20-21) And these patterns not only include certain habits, but also meanings regarding these new habits, because "[…]

when changes in food usages occur there may result widespread and expected changes in other, non-food related aspects of society." (Fieldhouse, 1995 [1985], p. 14)

The Real Meanings behind Sociocultural Traits

When habits change, an interesting phenomenon arises that has to do with the ability of superorganic adaptation. Staying with Mintz' example of sugar, the production and consumption of sugar transformed over time and, as it did, its uses and meanings changed too. (Mintz, 1985, p. 8) We already specified that people's behaviour is a function of their culture. Thus, we behave according to cultural elements and processes, including change. We can think, act, and feel only as a part of a sociocultural system. This social system, in order to serve its own interests, influences the behaviour of its component members by encouraging the right behaviour and discouraging the wrong. This is done through the ideational layer, or the society's superstructure – the system of secular and religious norms, values and beliefs. Through these ideologies, symbols, myths, philosophies, taboos, etc., people obtain significance in their activity of daily life. And "[a]s sugar became more 'homey', it was endowed with ritual meanings by those who consumed it, meanings specific to the social and cultural position of the users." (Mintz, 1985, p. 122)

These meanings are part of what Mintz describes as "inside meanings" – or, as we would call it, a society's emic mental superstructure – in contrast to the aforementioned "outside meaning" or etic behavioural infrastructure and structure. The emic mental superstructure is the top layer of any social system and supports – even enhances – the structure and infrastructure in the form of feedback loops. Such meanings for the individuals are consequently crucial elements to make the whole system coherent. But these "inside meanings" only arise when the changes connected to "outside meanings" are already under way. Even though they originate outside the everyday life and people's choice, they directly affect it.

> "In consequence of the changes, individuals, families, and social groups must busily integrate what are newly acquired behaviors into daily or weekly practice, thereby turning the unfamiliar into the familiar, imparting additional meaning to the material world, employing and creating significance at the most humble levels." (Mintz, 1996, p. 20)

Every behaviour has a meaning, and when behaviours change, people must endow their new behaviour with meaning. Thus, when new food items like sugar become available, they often replace more familiar items, and a transformation starts – shifting items from exotic treats into ordinary, everyday consumables. And as these changes take place, the foods acquire new meanings. (Mintz, 1985, p. 151) "This happens, however, within the widest constraints that outside meaning allow for." (Mintz, 1996, p. 21) Hence, "[…] larger institutional subsystems usually *set the terms* against which these meanings in culture are silhouetted." (ibid.)

In this way, factors on the infrastructural level determine the terms by which people acquire food, maintain or change their eating habits, and this includes their meanings. "The power resting within *outside* meaning sets terms for the creation of *inside*, or symbolic, meaning." (ibid. p. 30) Individuals are presented with the new situation within which they can make meaningful constructions for themselves, as long as such constructions do not violate the outer situational boundaries. (ibid. p. 21) Thus, meanings as part of the emic superstructure are ultimately a function of infrastructural, and further structural, adaptation.

> "Meaning, in short, is the consequence of [economic] activity. This does not mean that culture is only (or is reducible to only) behavior. But not to ask how meaning is put into behavior, to read the product without the production, is to ignore history once again. Culture must be understood 'not simply as a product but also as production, not simply as socially constituted but also as socially constituting'. One decodes the process of codification, and not merely the code itself." (Mintz, 1985, p. 14)

As human beings, it is our unique capacity to endow anything with meaning and then to act in terms of that meaning. These meanings arise at some point, grow, change, and disappear again. Even though some of the meanings with food items may seem commonsensical or even natural, they are not. We need to learn from the cultural group that rice, for example, "means" fertility in certain social contexts, including weddings, but in others not. (Mintz, 1985, p. 158) "They have no universal meaning; they 'mean' because they occur in specific cultural and historical contexts, where their relevant meanings are already known to the participants." (ibid. p. 153) But which materials we endow with meaning are subject to forces outside our consciousness. (ibid.) As previously stated, one's own cultural behaviour is unconscious to human beings.

> "It is internalized so that most of our routine behaviours are done unthinkingly, simply because that's how they are done. We may even be unaware that there are rules governing many aspects of our behaviour. We internalize cultural traditions so that they become an inseparable part of our self-identity, and few of us realize to what extent we are creatures of the cultural traditions in which we were raised." (Fieldhouse, 1995 [1985], p. 2)

Thus, it is not the individual who consciously puts meaning into their actions. "[…] [T]he individual is what his culture makes him. He is the utensil; [whereas] the culture supplies the contents. Conscience is the instrument, the vehicle, of ethical conduct, not the cause." (White, 1959b, p. 158)

Through such meanings, people are motivated to actions. But they themselves are strongly influenced by their material interests; in other words, the satisfaction of simple physical needs and desires. (Elwell, 2013, p. 42) "The non-material parts of the system are in mutual interaction with the material factors; structures and cultural ideas and ideologies are continually being transformed by material forces, which, in turn, are affected by the structural and cultural parts of the system." (Elwell, 2013, p. 39) Every social system needs to be supported by a corresponding belief system. Through this belief system, or the meanings bestowed on items and behaviour, situations and changes in situations are supported and

enhanced. Even though the role played by such ideational factors is "[…] subordinate to the constraints imposed by ecological, political, economic, and other behavioral and etic claims, conditions" (Harris, 2001, p. 247), it is crucial for any social system.

When we go back to our tripartite scheme, the etic behavioural components of a social system (infrastructure, structure, behavioural superstructure) are logically deduced, and in the case of the superstructure, it is deduced from constraints on the infrastructural and structural level, reflecting functions of the sociocultural system. The etic behavioural conditions and processes are strategically prior to mental conditions and processes, as well as the infrastructural over the structural and superstructural conditions and processes. The emic mental deals instead with the insider's view and their motives for doing something, which is usually, but not always (in contrast to the other etic process) rooted in any causal adaption or constraint. The possibility that emic mental superstructural and structural components may at some point "achieve a degree of autonomy from the etic behavioral infrastructure" is not rejected. (Harris, 2001, p. 56)

The structure and superstructure therefore play "vital system-maintaining roles" for the conservation of the system. (ibid. p. 75) Concerning foodways, the emic valuation through individuals is initiated by the infrastructure. Changes in this cause changes in foodways and ultimately also their emic valuations. Changes in emic valuations can also change foodways, but only when such changes are favoured by infrastructural conditions. (ibid.) "The restraints imposed by infrastructure upon structure and superstructure remain dominant in the determinative processes that lead to continuity or change in foodways: foodways that acquire adverse etic cost-benefit balances will tend to be selected against; foodways that have favorable etic cost-benefit balances will tend to be selected for." (Ross & Harris, 1987, pp. 5-6) Or in Mintz' words, the "outside meanings" set the term for the "inside meanings" – the infrastructure determines the superstructure, also in regard to food.

To summarise, habits change because of ecological or socio-economic pressures (infrastructure or Mintz' "outside meanings"). Such changes, which also affect food patterns, require encouragement and discouragement, depending on the higher or lower extent of efficiency. Both are done by the superstructural layer of a social system (Mintz' "inside meanings") – the secular and religious ideologies. It is through this instance that food items, as we have seen with sugar, are endowed with new meanings to the user, which ultimately transforms the unfamiliar to familiar. But this can only be done in accordance with the wider "outside" conditions, as such "inside meanings" ultimately serve as a further support of the whole system, which includes the new mechanisms.

3.5 Explaining Sociocultural Phenomena

With the help of the preceding chapters, we must come to the conclusion that food items and food-related behaviours are part of a system that is based on the natural environment and conditioned by socio-economic factors. As anthropologists, it is therefore not enough to discover the meaning of a particular food item, but we must also research the development of it. It is not enough to describe a specific food habit; we also need to explain it.

"During recent years many anthropologists have been abandoning an older interest in how things are caused – no longer trying to explain why this happened, rather than that – in order to interpret events in terms of what they were supposed to mean." (Mintz, 1996, p. 22) But it is an essential feature of anthropological study "[…] to describe the varieties of culture found throughout the world and to explain their development." (Steward, 1973 [1955], p. 3) And to be able to explain one phenomenon, we need to look at it from all angles. Hence, in the analysis of food habits and changes, we need to consider the natural environment, the economic situation, the politics and demographics, the nutritional value, the social function of the food, the historical background, and everything that has changed regarding these factors. And apart from simply the consumption of the specific food item, its production, storage, distribution, processing, and meal preparation are all factors that must be considered. "Finally, attention must be paid to food ideology – how people think about food and its particular meanings and values." (Fieldhouse, 1995 [1985], p. 25)

The Emics and Etics

We recall that the three layers of a sociocultural system are etic behavioural, based on actions, including the superstructure, i.e., art, music, dance, literature, advertising, rituals, sports, games and so forth. Conscious and unconscious cognitive goals, rules, values, ideologies, philosophies, beliefs, symbols, myths, magic, religion and taboos are understood as mental components. (Harris, 2001, p. 54) Such mental events, like the meanings of certain food habits or items, can only be obtained through participants, who communicate what is going on inside their heads. In contrast, behavioural events can be observed independently of the participants. Observers also have the option to describe both kinds of events in terms of categories that are defined, identified and validated, either by the participants (emics), hence the native's or insider's point of view – or by the observers (etics), a "[…] kind of matter-of-fact, scientifically measurable knowledge, usually stated by outsider's, but independently from personal interpretation." (Begemann, 2016, p. 14)

Thus, emic analysis relies solely on the informants' or subjects' explanation of data. In this sense, an analysis is correct if it conforms to or is consistent with what informants consider to

be an appropriate description and interpretation of that which is being studied. Classical ethnographic description – life as experienced and described by the members of a society themselves – is closer to emic analysis, in contrast to more general statements about culture and society. (Eriksen, 2010 [1995], pp. 39-40) According to Lett, "[e]mic constructs are accounts, descriptions, and analyses expressed in terms of the conceptual schemes and categories regarded as meaningful and appropriate by the native members of the culture whose beliefs and behaviors are being studied […]." (Lett, 1996, p. 382) It is only correctly termed "emic" if the depicted perceptions are in agreement with the insiders. This means that the focus lies on the cultural distinctions which are meaningful to the members of the respective society. And only they can be the judges of the validity of the description. (ibid.)

Etic analysis, on the other hand, does not rely on informants' interpretation of the data, but on explication provided by a group of independent observers using agreed-upon scientific measures. (Murphy & Margolis, 1995, p. 4) The etic perspective is concerned with the extrinsic concepts and categories, which do not have meaning for the members of a society, but the scientific observers. An example for this is per capita energy consumption. In this case, the only judges of validity are scientists. Accounts, descriptions and analyses expressed in terms of the conceptual schemes and categories which are meaningful to scientific observers are therefore called "etic". (Lett, 1996, p. 382) "It is correctly termed 'etic' if and only if it is in accord with the epistemological principles deemed appropriate by science (i.e., etic constructs must be precise, logical, comprehensive, replicable, falsifiable, and observer independent)." (ibid.) It then becomes a matter of logical and empirical analysis. (ibid.) Whereas the etic definition of economy includes all kinds of processes such as production, redistribution, and consumption, the emic includes a specific kind of economic system with specific rules. (Begemann, 2016, p. 31) Furthermore, we as scientists need to distinguish "[…] ourselves from the culture-bound second group – and for that we need the emic/etic distinction." (Lett, 1990, p. 141)

Now that we have defined the concept of mental (or thoughts) and behavioural (behaviour) aspects of a social system and the validation of aspects by either the participants (emics) or by the observers (etics), we can identify four basic types of knowledge: (1) emics of thought; (2) emics of behaviour; (3) etics of behaviour; and (4) etics of thought. Whereas the emics are concerned with motives, the etics are concerned with functions. While functions refer to sociocultural traits and how these contribute to the maintenance or adaptation of the system, motives are the subjective orientations of the individuals engaged in behaviour. (Lett, 1990, p. 131) This supports the concepts of "outside meanings" and "inside meanings", as we have previously shown.

Emics and etics might be similar, but the more complex a society, the larger the difference between them. For anthropological research you need both emics and etics, along with both thought and behaviour, in order to be able to understand sociocultural phenomena (ibid.) The intent is "[…] to describe both and if possible to explain one in terms of the other." (Harris, 2001, p. 36) The combination of both insider and outsider knowledge closes the gap and allows for comprehension of complex and even global phenomena. (Begemann, 2016, p. 10) This distinction does not mean that one of these forms of knowledge is of greater worth, but that there are different forms of knowledge for different goals. Both studies, emic and etic, are thus equally legitimate and important. (ibid. pp. 31-32)

> "Emic knowledge is essential for an intuitive and empathic understanding of a culture, and it is essential for conducting effective ethnographic fieldwork. Furthermore, emic knowledge is often a valuable source of inspiration for etic hypotheses. Etic knowledge, on the other hand, is essential for cross-cultural comparison, the sine qua non of ethnology, because such comparison necessarily demands standard units and categories." (Lett, 1996, p. 383)

The combination of both can lead to a rich understanding of a certain phenomenon and its development. It combines the macro with the micro level. Concerning food, this means that the emic data is based on what people eat and the symbolic significance of this, i.e. the "inside meanings". Etic data on food, in contrast, relies on units and categories which are imposed by the observers, and includes calories, proteins, or cost and benefits. (Ross & Harris, 1987, p. 5) In the end, emic inedibility, due to taboos or moral standards, usually represents an accurate probabilistic statement of the etic situation. (Ross, 1978, p. 16) Thus, food preferences and beliefs are related to ecological and economic costs and benefits. Such etic constraints, including food production, e.g. time and energy inputs, resource availability or soil fertility, are usually not contradicted or overridden by the emic. Rather, the emic helps to organise the essential behaviour to be efficient in this sense – through preferences and aversions. The beneficial dietary pattern reflects infrastructural and structural processes, with a great symbolic significance. (Johnson & Baksh, 1987, p. 387) Therefore, "[…] food preferences and aversions are a useful vehicle for understanding the generation of food-related behavior because they articulate between behavior and belief." (Roosevelt, 1987, p. 566) This means that it is vital to include not just individual meanings and the respective social system, but the interrelatedness of both. (ibid.)

To understand systems along with their changes as holistically as possible (this is equally valid for food systems), it is necessary not only to describe and analyse the single components, but the specific interactions among them. And for this, the inclusion of both mental and behavioural components is of key importance, as are the inclusion of both insider's and outsider's view (or emic and etic). This thesis is based on this premise. "We anthropologists for

too long have paradoxically denied the way the world has changed and continues changing, as well as our ability – responsibility, even – to contribute to a broad understanding of the changes." (Mintz, 1985, p. 213) According to Mintz, "[…] situations of rapid change in food habits deserve a much closer look than they have received. We need to know far better than we do know why some food habits change easily and swiftly, while others are remarkably enduring […]." (Mintz, 1996, p. 24)

The aim of this thesis is to achieve exactly this: the understanding and explanation of (rapid) changes in food and food-related behaviour, with the region in focus being none other than the extraordinary island of Iceland. The ways in which this aim was reached, with which methods the necessary emic and etic data on mental and behavioural aspects was collected, is demonstrated in Chapter 10 ("Methods and Data"). Before diving deeper into that aspect, let us first start with our analysis.

4 Background Information on Iceland

"[D]iet [should] 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, p. 8) It is about the availability of edible items and utensils for preparing these items, that reflect the given demo-techno-econo-environmental conditions. (Harris, 1987, p. 58)

From this, one can deduct that most of the dietary changes are responses to the local conditions of climate, soil, flora, and fauna or to shifts in the modes of production and reproduction. We recall that specific sociocultural patterns are the outcome of determinative processes, which are predominated by biopsychological, technological, economic, demographic and environmental factors (infrastructure). These processes are responsible for the evolution of distinctive forms of domestic and political organisation (structure) and even religious and symbolic systems, and philosophies (superstructure). Once such structures and superstructures are in place, they too exert to some extent influence over other aspects of life in the form of feedback loops, including foodways. (Ross & Harris, 1987, p. 5)

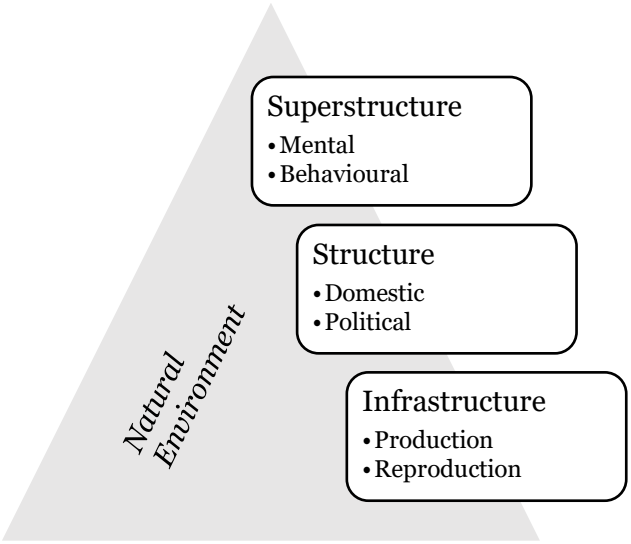

Figure 10: The Tripartite Scheme

However, it seems reasonable to search for the beginnings of the causal chains affecting sociocultural evolution in the complex balance between the supply of resources, the size of the respective population, and the accompanying production modes. To demonstrate this using the example of food in Iceland, we now know that we must first look at its specific conditions. It is not only the available natural environment with its resources which is of importance, but also the population distribution, the technological developments and the general history of the island.

4.1 The Natural and Historical Circumstances

> "Like all life on earth, human beings must obtain subsistence from their environment. All human action is therefore necessarily limited by environmental constraints—chiefly, the availability of food. The amount of food that a particular environment can provide is limited by environmental factors (such as land fertility, the existence of animals with potential to be domesticated, climate, and rainfall patterns), human technologies (such as the domestication of plants and animals, fertilizers, irrigation, the plow, and insecticides), and the division of labour." (Elwell, 2013, p. 38)

The aim of this thesis – the understanding and explanation of food and its changes in Iceland – can only be reached through an understanding and explanation of the unique conditions in Iceland. In this chapter, we will first take a look at the natural environment, including the flora and fauna present, then elaborate upon the historical circumstances and the resulting social structures.

Environmental Conditions

Each of us is born in a unique environmental setting consisting of physical, chemical and biological elements. The social organism is dependent upon this setting and requires a specific way of dealing with it. Hence, the geographical conditions of the specific habitat ultimately lead to very particular types of systems to sustain life in the most efficient way. This makes it

necessary not just to include the natural habitat in the explanation of social systems, but to start with it.

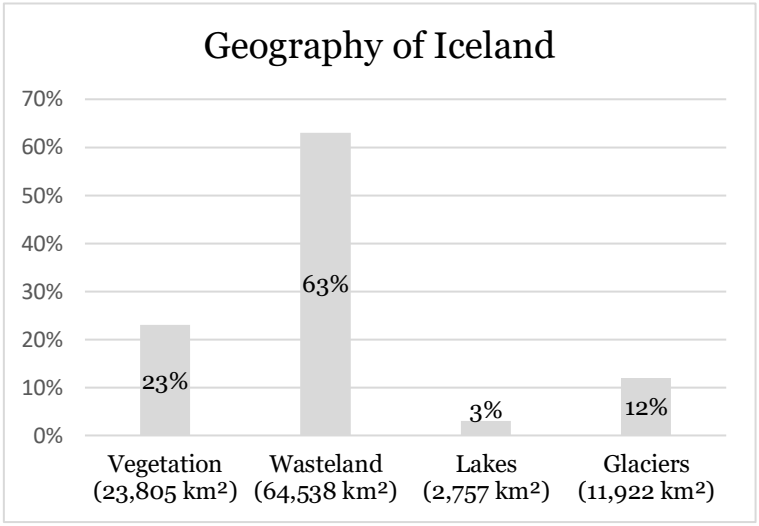

Figure 11: Geography of Iceland (based on Seðlabanka Íslands, 2019, p. 7)

Iceland is an island in the North Atlantic Ocean – one of the least densely populated countries in Europe. As it touches on the Arctic Circle towards the north, the climate is subarctic. (Hastrup, 1990, p. 26) While the north is influenced by the cold East Greenland Current, the rest of the island comes into contact with the moderate Gulf Stream, leading to two more or less distinct ecological zones. The south and the west are characterised by relatively mild winters and cool and rainy summers, while the East Greenland Current leads to much greater fluctuations in temperature and precipitation in the North. For example, the capital city of Reykjavík, located in the south west, has an average temperature of 12°C in summer (July) and 1°C in winter (January). (Hastrup, 1998, p. 33)

"This geographical position has important implications for the history of Iceland. It has fashioned patterns of trade and other kinds of communication, and also accounts for some natural limitations on the social development." (Hastrup, 1990, p. 27) Of the total 103,000 km², only a small percentage of the island's surface is arable. The areas that are not covered in either ice or lava are generally mountainous, with only smaller stretches of habitable land. This means that the land is not very hospitable, and, despite the size of the island, its natural capacity is low and has probably even decreased. (ibid. p. 30) When the first inhabitants arrived in Iceland, most of the country was an elevated plain with non-significant vegetation and large glaciers. "But along the coastline, in valleys stretching from the bottom of the fjords, and in large lowland plains, particularly in the central south, the soil was covered with low, close-growing and succulent grass, which in many places was sheltered by birchwood." (Karlsson, 2000, p. 9)

Along with the cold and harsh climate, the soil is also not rich in minerals, which makes it hard to grow plants like trees, crops, vegetables or fruits. Only about 23% of the total land mass is classified as "vegetated land", located mostly in the south and the west and in some valleys stretching from the coast. (Seðlabanki Íslands, 2019, p. 8) Land used for agricultural purposes is very limited, accounting for only 2.4% of the total area. And from this, 97% is used for pastures exclusively. In general, agriculture makes up only 6% of Iceland's economy. Today, man-made areas cover only 0.4% of the total area of the country and are very small compared to other European countries. Almost all urban areas are on or near the coast. (European Environment Agency, 2019 / European Environment Agency, 2016, p. 4) In the following figure we can see the massive amount of waste land and permanent ice and snow which covers the majority of the island's surface.

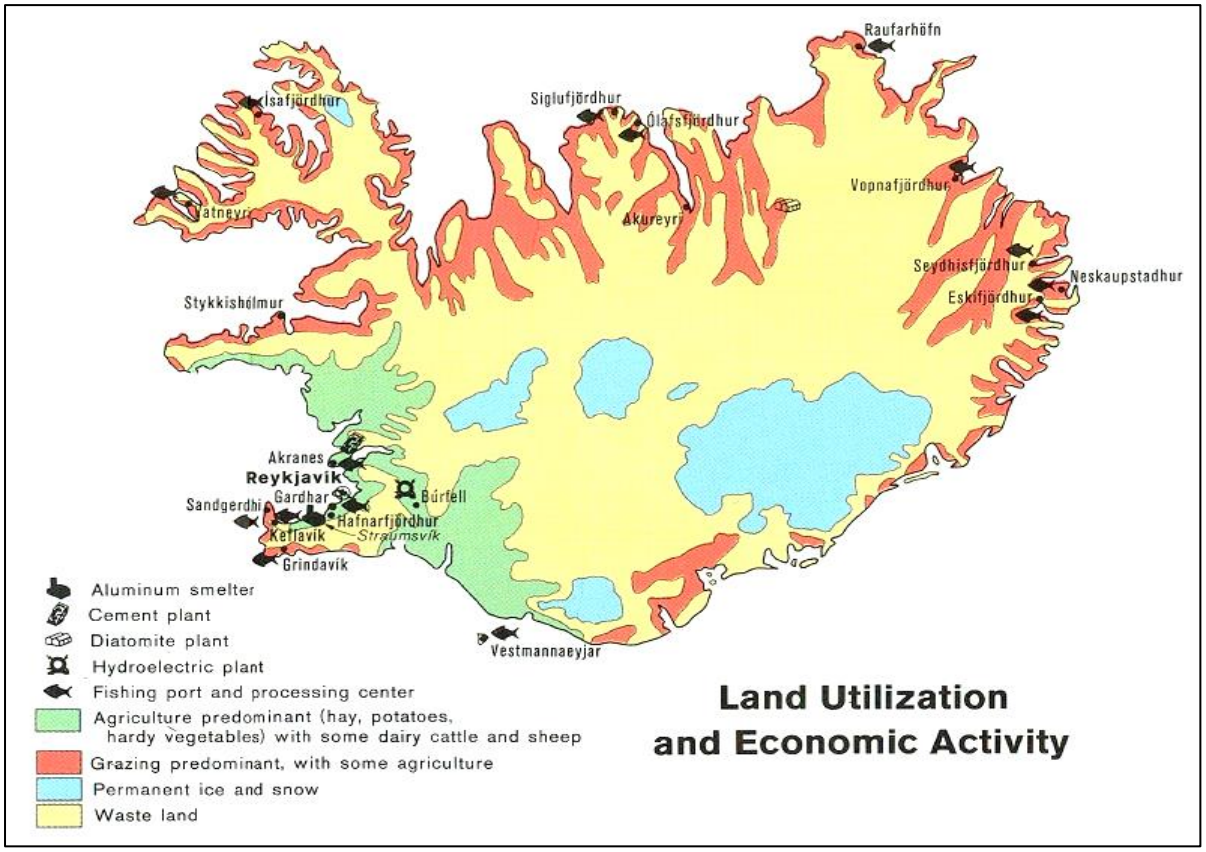

Figure 12: Land Utilisation and Economic Activity (University of Texas Libraries, 2019)

"Both the fauna and flora of Iceland were always relatively poor in species." (Hastrup, 1990, p. 30). Even though birds were abundant in numbers, they were very few in species. (ibid.) The only mammals in the area were foxes, seals, and whales. (Karlsson, 2000, p. 9) Various grasses were the main species of plants present. As the land was so scarce in natural edibles, the sea provided a vital resource. Despite the few resources, farming and fishing were the basic pillars of the Icelandic economy for centuries. "The dual basis of Icelandic economy, and the lack of

resources other than soil and sea have provided the framework of the economic development in Iceland through the centuries." (Hastrup, 1998, p. 34) And along with fish, the currents and winds at sea brought driftwood to the shores of Iceland, without which the island would have been even poorer. The huge distances across the North Atlantic and the unstable wind made communications for the better part of the year even more complicated and subsequently defined the narrow limits of trade. (Hastrup, 1990, p. 30)

Historical Developments

Aside from the natural habitat and the available resources, historical processes are of great relevance. "In order to evaluate the adaptive or evolutionary significance of a particular group's food patterns, it is very important to view them in historical, political, demographic, and socioeconomic contexts." (Roosevelt, 1987, p. 575) History can reveal the political and economic significance of past and present events connected to food. (Mintz, 1996, p. 11) Or in Mintz' words: "[…] looking backward enables us to see how the relationships among the parts of such a system took on their characteristic form over time." (Mintz, 1985, p. 180)

Iceland, with the exception of Irish monks who visited the country in the 8th century (accounts of which are still debated today), was generally uninhabited until the late 9th century, when settlements from the Scandinavian mainland – more than 900 kilometres away – began. (Hastrup, 1990, p. 26) "Traditionally, the time of 'settlements' has been defined as the period from 870 to 930." (Hastrup, 1998, p. 30) Before the arrival of the mostly Norse farmers and fishermen, Iceland used to have forests of low birch, making up about 35% of the land area. But with the arrival of new inhabitants, who used large amounts of timber to build houses and boats, heating and cooking, and also for creating grazing pastures for cattle, Iceland ended up with only 1%. The harsh climate, as well as the lava and ashes from active volcanoes, made it nearly impossible to re-grow trees. Without any vegetation, the soil was not protected from erosion and could not store water, which resulted in a further desertification of the land. The land was arid, and the fields had to be worked carefully for the yield. (Hastrup, 1998, p. 33) Today, forests cover only 0.3% of Iceland's surface – despite longstanding attempts to reforest the land. (European Environment Agency, 2019) Even though the earliest settlers deforested the island to make a living, leading to even harsher conditions, they brought one main asset with them: animals in the form of cows, sheep, goats, chickens and horses.

After the settlement, the young country was independent and established in the year 930 the "Althing" (*alþingi*) – a general legislative and judicial assembly, which can be understood as the world's first parliament. Once they arrived, the settlers, who fled from a very strict feudal order in Europe, soon defined their own world on the edge of the European order. This

inaugurated the first free society, most often referred to as the "Commonwealth of Iceland", based on a principle of equality among free farmers, and a strong definition of "our law", which remained in force until 1262. (Hastrup, 1998, p. 32) After this so-called "golden age" of Iceland, the country became part of the Norwegian crown in 1262 and as such part of the Danish realm in 1380, when Denmark and Norway were united. (Durrenberger & Pálsson, 1989, p. 4)

Even though the island was so far away from the rest of the kingdom, they did not have a totally isolated economy without commerce and markets. Necessities, such as timber and grain, were imported and could be obtained by selling household products to Danish merchants. Between 1602 and 1787, colonial influence on the Icelandic economy was particularly strong, when the Danish monopolised foreign trade and imposed tributes. Due to Iceland's status as a colony, it had no access to other markets. They were obligated to sell their products (above all fish) to one merchant, who determined the terms of trade, while there was an auction in Copenhagen to give the highest bidder the right to trade with them. (Pálsson, 2000, p. 7)

"During the nineteenth century the pendulum began to swing back towards autonomy and a more stable economy." (Hastrup, 1998, p. 27) In 1875, Denmark finally granted Iceland more control over its economy and international trade suddenly became possible. (Durrenberger & Pálsson, 1989, p. 5) Also during this time, a fight for a shift from the centralised power of the Danish state over Icelandic territory to a wholly Icelandic state started to emerge in the form of a movement for independence. Ultimately, the development of industrialisation and modernisation, especially in regard to the fisheries, transformed not only the nation in a rapid manner, but established the required economic basis for national independence. (Brydon, 1996, pp. 37-38) In 1918, Iceland finally became independent, though still in union with Denmark. (Hastrup, 1998, p. 27) But in 1944, the 60,000 inhabitants of Iceland achieved total independence, when the Republic of Iceland was declared. "Through this successful struggle for independence in the 19th and early 20th centuries, as well as the industrial and technical modernisation in the first half of the 20th century, Iceland experienced its renaissance." (Karlsson, 2000, p. 2). But more about this later.

To conclude the natural and historical conditions of Iceland's earliest years which shaped its later development, we can affirm that Norse settlers arriving on the island in the 9th century faced a harsh climate and an even harsher landscape. The scarcity of natural resources and the deforestation of the island were yet another challenge for them. These farmers and fishermen brought livestock with them, which were necessary for their own survival and created a free society without the feudal system, which prevailed in medieval Europe at that time – until it was colonised by the Norwegian and later Danish Crown. This led to an end to Iceland's "golden

age" and the introduction of hard restrictions and tributes. These defining circumstances stayed predominantly the same for the subsequent hundreds of years.

4.2 Traditional Food Habits

To sustain human life, just like that of other social organisms, individuals must obtain energy from their very specific environment in one way or another. To gain enough energy, we must exploit the existing habitat of available flora and fauna to obtain items that we can eat and drink. We know that culture is the primary mechanism for us to deal with the natural environment. It is used to obtain energy from the environment, especially by technological means such as the exploitation of the elements, the domestication of animals and plants or the division of labour. Thus, "[w]hat food is available is a matter of geography and climate, combined with various influences which determine food transportation and distribution capabilities, and policies relating to each of these. Hence physical and political parameters as well as economic ones are of importance." (Fieldhouse, 1995 [1985], p. 27) After explaining the natural and historical conditions in Iceland over the centuries, we can now look at what Icelanders were left to eat. As may be imagined given the natural and social circumstances in Iceland, a "[l]ack of certain culinary basics shaped the diet of Icelanders in earlier times." (Amilien, 2012)

The Value of Animal-based Food Items

As Iceland was not populated until the late 9th century, the earliest settlers already knew and practised some kind of husbandry which was common in Scandinavia. But in Iceland, towns and villages hardly existed until the end of the 19th century, which left Icelanders to live either off the land or off the sea. Thus, the majority of the population had to be engaged in food production in one way or another. Inland farmers heavily relied on animal husbandry, especially sheep and cattle, and thus on meat and milk products, whereas fish products constituted the largest part of the food in coastal communities. (Jónsson, 1998, p. 27) As one Icelander pointed out, "Iceland didn't have anything. It was always animal-based." (GHS, 2018)

Fishing had indeed played a central role in the Icelandic economy since the very beginning. (Durrenberger & Pálsson, 1989, p. 4) The sea surrounding the island contained whales, seals, sharks and fish in plenty, whereas streams and lakes supplied freshwater fish. (Hastrup, 1990, p. 30) For inland farmers, rivers filled with salmon and lakes with trout played important roles in their access to fresh fish, as they otherwise had only preserved fish. (Karlsson, 2000, p. 168)

Many farmers also worked additionally as fishermen during the fishing season from February to May to provide their households with valuable fish products. The coastal communities, however, lived off staples provided by the sea such as cod, haddock, catfish, ling, saithe, halibut and other species of fish, as well as fish liver oil. Fish was either eaten fresh when available, or dried raw to be eaten at a later date. (Jónsson, 1998, pp. 25-26) Apart from fish, it was also common to hunt and cure sea mammals such as sharks, seals and whales. In fact, the Icelandic word *veiðar* comprises all kinds of 'hunting' and 'gathering', and can be specified as *fiskiveidar* (fish), *fuglaveiðar* (birds), *hvalveiðar* (whales) and even *eggveiðar* (eggs). (Hastrup, 1990, p. 68)

In addition to various kinds of "hunting", gathering was a common practice. Shellfish and seaweeds, as well as eggs from wild birds, were vital sources of food during the spring. Besides the eggs, the birds themselves were also caught and eaten; these included puffin and ptarmigan. (Amilien, 2012) Wild berries, such as blueberries, crowberries, bilberries and redcurrants were gathered, along with wild plants and herbs like the Iceland moss, the seaweed dulse, sheep sorrel, creeping thyme and birch. (Jónsson, 1998, p. 28)

Animal husbandry was only possible because the earliest Norse settlers brought with them the necessary livestock. Although they also imported goats and chickens, the most common animals were cows, sheep and horses. As a result, one of the most important features of the Icelandic diet were milk products, usually from cows throughout the year and from ewes in the summer. (Karlsson, 2000, pp. 166-167) The main products were butter, whey and a special Icelandic curd called *skýr*, made of skimmed milk and rennet. Animal husbandry was the mainstay of agriculture, and over the centuries there has been a gradual shift from cattle to sheep. (Jónsson, 1998, p. 25) Whereas sheep and cattle were used for food production, horses were mainly used as a means of transportation – although the consumption of horse meat also became common. (Karlsson, 2000, p. 167)

For the preparation of food, there was neither firewood, peat nor dung available to cook or smoke, as it was more valuable as fuel or construction material. Consequently, most foodstuffs were eaten cold. Furthermore, the lack of salt made it necessary to create other forms of food preservation. "Shortages may also have been the driving force for new and sometimes innovative solutions for survival." (Amilien, 2012) A method unique to Iceland was created to make meat last longer – pickling in whey. This method not only preserves all the nutrients in the food, but also creates a distinct sour flavour. (ibid.) For storage, most of the meat products were soured with whey or air-dried, with the latter method only being deployed in spring, as flies would otherwise lay eggs in the meat pieces and perish them. (TK, 2018 / AG, 2018)

Between 1602 and 1787, when Denmark had a trade monopoly, the only imported foodstuffs of significance were rye and barley. There is evidence of grain having been grown in medieval

times, but by the 16th century the practice had come to an end and all cereals therefore had to be imported. The modest consumption of cereals primarily took the form of gruel. "The reason for this is probably the scarcity of fuel, which shaped the Icelandic diet in many ways and explains, at least in part, why most of the food was eaten cold." (Jónsson, 1998, p. 26) Because of the harsh climate and the short summers, it was also difficult to grow vegetables. In fact, there is no evidence of vegetables having been grown in Iceland until the end of the 18th century, when potatoes, rutabagas and rhubarb started to be imported from mainland Europe. (Sheen, 2011, p. 13)

"The most prominent feature of the Icelandic diet was the predominance of animal-based foods and to such an extent that it had few parallels in Europe, except perhaps among the Inuit in Greenland, the nomads in Lapland and coastal communities in the far north of Europe." (Jónsson, 1998, p. 26) Recordings from 1770 indicate that the daily consumption of milk was 2.9kg, while about 650-700g fish was eaten on average daily. (Jónsson, 1998, p. 32) The prominence of fish, meat, butter and suet made the Icelandic diet rich in proteins and fat, whereas the carbohydrate content was scarce. Apart from the lack of fibre-rich foods in the form of grains and vegetables, vitamin C seems to have been the most serious deficiency in the diet. Scurvy was consequently the most common deficiency disease. (Jónsson, 1998, p. 30) Through this example we can see how the consumption of certain foods are determined, or rather limited, by ecologic and economic factors. (Abrams, 1987, p. 216)

Hence, the Icelandic nutrition consisted primarily of milk products, fat, meat and fish – in contrast to the common people in mainland Europe, who lived mostly on cereals. (Karlsson, 2000, p. 252) "It was not until well into the nineteenth century that the 'medieval level' of technology and population was reached again, and a new trend could be seen. With the expanding fishing and growing yield of hay, Icelandic society was finally set in motion towards the modern market-oriented economy." (Hastrup, 1998, p. 39) Important and radical dietary changes were taking place, which became more pronounced as the century progressed (Jónsson, 1998, p. 35) and the standards of living increased for Icelanders due to a considerable growth in foreign trade, especially food items. (Karlsson, 2000, p. 227) Suddenly, the consumption of cereals more than doubled between 1819 and 1840, and after 1880, a wide-ranging change occurred as sugar and vegetable consumption (especially potatoes) rose to significant levels, while traditional foods like milk, meat and fish declined. (Jónsson, 1998, p. 35) Other foods which eventually became accessible included syrup, salt, coffee and alcoholic beverages. (ibid. p. 25)

Following this explanation, we can see that foodstuff that is available and "[...] from which the individual can choose is dependent on the environment and is moderated by technology and

politics." (Kuhnlein & Receveur, 1996, p. 419) In Iceland, it was the harsh climate, the mostly unusable landscape, the few natural resources, and the isolation of the island (and later the restriction of foreign trade), that shaped foodways in Iceland. As arable farming was not possible because of the climate, it was ultimately the animal husbandry of imported sheep and cattle, along with the waters in and around Iceland, which defined Icelandic food habits for many centuries. For the same reasons, diets consisted mainly of animal products. But it was not just food which was shaped by these factors – food-related behaviours, such as the preparation and preservation of foodstuffs, e.g. pickling in whey, were characterised by these circumstances.

4.3 Whale as a Vital Resource

Another topic which we have yet to analyse in order to fully understand and explain certain sociocultural developments in Iceland is whale as a resource. As one Icelander put it, "we survived because of what the sea gave us." (GHS, 2018) Indeed, we have already seen the special role the sea and the vegetative possibilities it provides has played in Iceland's history and in the survival of its inhabitants. As "Icelanders are dependent on fish and have always accepted food from the sea, including whales and seals" (Sigurðardóttir, 2016, p. 67), let us now elaborate the historical background and developments concerning whales and whaling in Iceland, which is yet another account of techno-environmental relationships.

"The human use of whale products is probably as old as the time fully modern humans (and perhaps even earlier) encountered stranded whales or whale remains." (Savelle & Kishigami, 2013, p. 8) While the usage of material from stranded whales is called passive whaling, active whaling includes the deliberate pursuit and killing of whales. Due to the introduction of new whaling methods in the 1860s, the history of active whaling is divided into two main periods – old and modern whaling. "Whereas modern whaling spans little more than a century, the old dispensation goes back to prehistoric times." (Tønnessen & Johnsen, 1982, p. 3) The earliest active whaling was developed approximately 6,000 years ago in California and 5,000 years ago in Japan, with further unrelated developments in Scandinavia and the North Pacific. In Europe, it can be traced back at least 1,000 years. (Savelle & Kishigami, 2013, p. 8)

Old Whaling

Regarding the earliest active whaling in Iceland, it is assumed that the Scandinavians had been active as of the 9th century, and that they later taught the Icelanders how to push whales into

the fjords and then kill them (Ellis, 1993, p. 49), so that Icelanders were actively whaling by the 12th century. (Savelle & Kishigami, 2013, p. 6)

A questioned historian indicated that Icelanders were whaling even though they did not have the right technique for it (AG, 2018). As a result, they were probably only catching small and young whales (Kuhn, 1971, p. 63) and more sporadically. (Savelle & Kishigami, 2013, p. 6) Fish in general (including whales) were considered to be in the domain of the god Njörðr, and when a fish or a whale was obtained, it was understood as a gift from Njörðr's. Following Christianisation in the year 1000, Njörðr's gift was translated into (the Christian) God's gift. (Rasmussen, 2014, p. 81) Thus, Icelanders used to catch small whales with spears (Sigurðardóttir, 2016, p. 67) because this simple technique is not successful with bigger animals. (GHS, 2018; SU, 2018) They travelled out to sea in small boats (Pálsson, 2000, pp. 7-8) and threw their spears with ropes attached onto the whale. This was a specifically dangerous undertaking as the whale would drag the boat for a long time. In addition, the spear was engraved with the owner's name; in case the whale escaped and died later, ultimately washing up somewhere onshore, the owner then had the right to collect it. One interviewee (SU, 2018) also indicated that Icelanders used to hunt with nets, and that when a whale got caught and was taken to the shore, it was cut up and everyone got a piece. In general, it was never a commercial activity in Iceland, undertaken only for survival.

More common and ancient than the active form of whaling with spears or nets was the practice of Icelanders eating whale meat when beached whales were found. (Sigurðardóttir, 2016, pp. 67-68) A beached whale could save an entire district from starvation, and the Icelandic word for this, *hvalreki*, is also used for an unexpected gain or a stroke of luck at a critical moment. (Hrafnsson & Bergþórsdóttir, 2012, p. 82) "[…] [T]he image of a whale has had a historical meaning since the ninth and tenth centuries. The Icelandic word for windfall or godsend, '*hvalreki*', literally means 'stranded whale'." (Fitzmaurice, 2015, p. 140) Thus, a whale on the coast could be a great find and even a lifesaver, providing food to many households during difficult times and especially during the cold winters when ice prevented the fishermen from going out to catch fish. (Sigurðardóttir, 2016, pp. 68-69) No wonder the term is still used today to express something like "jackpot".

Stranded whales also occasionally led to fights which ended in people being killed. This made the surrounding legislation so important. (ibid.) In different sagas (Icelandic prose narratives from the 13th and 14th century), occasional fights concerning beached whales are mentioned. (Ellis 1993, p. 94 / Kuhn, 1971, p. 63). The first legislation concerning whales, which dealt with the ownership of beached whales, was passed in 1281 and is still valid to this day. (Hrafnsson & Bergþórsdóttir, 2012, p. 82) The so-called *Jónsbók* includes rules and rights, as disputes over strandings (*reki*) were common in court. Landowners had privileged access to resources, and

this was valid for the sea and the beach likewise. (Hastrup, 1990, p. 68) This meant that when an (unmarked) beached whale was discovered, it was property of the landowner. (AG, 2018) "Certain shores were known as *rekastrandir* [stranding beach], and clearly to have access to such a place was an invaluable economic asset […]". (Hastrup, 1990, p. 74) The *Laxdaela saga*, an Icelandic saga from the 13th century, towards the end of Iceland's "golden age" before the Norwegian colonisation, states, "[…] land was so abundant and one did not have to pay for it; there was much stranding of whales and salmon-fishing, and places to fish all year round." (ibid. p. 45)

Thus, when a beached whale was found, it belonged to the landowner, whose family had consequently enough food for the following years. Nevertheless, a lot of men were needed to help take care of the meat, including preservation, which was usually carried out via air drying, smoking or preservation in fermented whey, giving the whale meat (and other kinds of meat) a distinctive sour taste (TK, 2018). Parts of the whale constituted to Icelanders what pork represents to many other nations. But the meat was not the only part used – the blubber was extremely valuable as you could extract 5 tons of fish oil through melting, which was used for lighting. (Sigurðardóttir, 2016, p. 68) In general, people used every part of a whale. From the skin they made ropes; from the bones shovels, bowls, needles and even toys. And their massive teeth were carved into various decorative and practical objects, such as knives or jewellery. (TK, 2018) In the Skógasafn Folk Museum, a penholder, a needle, a snuff box, a window, a spectacle case, a whip stock and a rope buckle can be found – all made of whale bone. Further objects in the museum include a buoy made of whale gallbladder, a barrier to separate stalls in a cowshed made from a whale shoulder blade, whale vertebrae used as chopping blocks, kitchen stools, or hollowed out and used as a charcoal box in a smith or as a cask. Bones were also used for medical purposes; for example with problems for urinating. Whatever they did with the whale, "they used everything". (AG, 2018) But without a doubt, the most valuable part was of course the meat and the oil. (ibid.)

Icelanders have eaten whale meat fresh, salted, smoked or sour for centuries. (Sigurðardóttir, 2016, p. 67) It was not just that "[…] in premodern Iceland, locals considered the occasional stranded whale a godsend" (Brydon, 1996, p. 27), but that „[t]he hunting of sea mammals […] was a significant part of the Icelandic household economy." (Pálsson, 2000, pp. 7-8)

Modern Whaling

It is suggested that whaling for commercial profit was initiated by Basque hunters in the 11th century. While their whaling operations were limited to the Bay of Biscay during the 11th and 12th centuries, by the 14th century it had already spread to Ireland and the English Channel,

with further expansion to Labrador and Newfoundland by the 16th century. By the early 17th century, they arrived in Spitsbergen and Iceland and set up a whaling station there. Next to the Basques, the Dutch, British, French, Danish and German fleets were also active in the Arctic regions. Replacing hand-held harpoons, mechanically propelled ones were established in the late 19th century, initiating "modern whaling". (Savelle & Kishigami, 2013, p. 6)

The Norwegian Svend Foyn developed a new method of hunting. He introduced steam-driven whaling boats in 1863 and created the harpoon cannon in 1870 – as the name implies, a harpoon with an attached grenade which was fired from a cannon. The grenade eventually explodes inside the whale, pumping air into the carcass and keeping it afloat. (Rasmussen, 2014, p. 81) A line fastened to the harpoon made it possible to then tow it to a shore station. This method first saw the light of day off the coast of Finnmark and is often referred to as the "Norwegian method". From there, it spread to oceans all across the world. (Tønnessen & Johnsen, 1982, p. 7) With the introduction of this technique, larger fast-moving species like blue, fin and sei whales became possible to hunt and "[…] the industrial Revolution had made its entry into whaling." (Tønnessen & Johnsen, 1982, p. 6) Commercially, whaling was almost exclusively based on the extraction of oil, which was carried out by cooking the blubber and the highly oleaginous bone and flesh in large pressure boilers. In the old days, the oil was mainly used for lighting, lubrication and softer kinds of soap. While it was still used for these purposes in the modern period, it now became an important raw material in the production of margarine. Furthermore, it was also used in the tanning and textile industries, as well as for linoleum and paint, for tempering steel, etc. (ibid. pp. 6-7) It seems clear that "[…] whaling would never have been undertaken if there had been no market for the oil obtained from it." (Tønnessen & Johnsen, 1982, p. 9)

Several nations conducted modern whaling for industrial purposes; the biggest ones being Norway, Russia, Japan, the U.S. and the U.K. Apart from Russia, these nations all have a long historical tradition of whaling, with evidence even existing for prehistoric whaling – either in an active or passive form. (Savelle & Kishigami, 2013, p. 8) In Iceland, the U.S. first hunted whales in 1865, while in 1889 four Norwegian companies arrived, followed by five more as a result of their great success. In particular, two factors made Iceland an attractive base: the season was longer than in Finnmark, and they could hunt excessively the biggest whales on earth – the blue whale. Hardly any other areas in the northern hemisphere have provided such stable catches of blue whales over such a long period. (Tønnessen & Johnsen, 1982, pp. 75-79)

In contrast to the other countries who were whaling in Icelandic waters, Iceland itself kept spearing whales from small boats and thus did not engage in large-scale whaling until the end of the 19th century. Eventually, the thought arose that if foreigners could make money on whaling from their waters, then they should be capable of doing so too. For this reason, the

"Whale Industry Company of Iceland" (*Hval-Industri Aktieselskabet Island*) was established in 1897. But the numbers of whales being caught declined radically and the business was closed in 1913. (Tønnessen & Johnsen, 1982, pp. 81-83) In the beginning of the 20th century, it was becoming undeniable that whale-catching was on the decline and that stocks of whales were dwindling. "Traditionally-hunted whale stocks were being seriously depleted by the advent of modern whaling during the late 19th and early 20th centuries." (Savelle & Kishigami, 2013, p. 7) Even though whaling was partly hampered by wartime activities, it was the Icelanders themselves who put a stop to it. A ban on all whaling, to run from October 1915 for ten years, was imposed by the Althing in order to preserve remaining whale stocks.

Another Icelandic company commenced catching in 1935 but was forced to abandon the effort five years later. (Tønnessen & Johnsen, 1982, pp. 81-83) It was not until 1948 that the Icelanders succeeded in establishing a whaling industry, when a single enterprise named "Hvalur H/F" (translation: "Whale Ltd."), bought ships from the Norwegians and started hunting large fin and sei whale from their whaling station in the very suitable region of Hvalfjörður ("Whale fjord"). (Brydon, 1996, p. 27) Finally, "[…] Icelandic whaling has largely been organised on the basis of capitalist production. Most of the whales landed in Iceland have been caught by the vessels of a single company (hvalur)." (Pálsson, 2000, p. 7) In addition to sei and fin whaling by this company, ten families on the north coast combined cod fishing with seasonal hunting of smaller minke whales as part of minor local production activities. (Brydon, 1996, p. 27)

In conclusion, we can say that Icelanders lived from what was available to them, just like everybody else. But as resources in Iceland were particularly scarce, they had to use unique techniques – just as their environment is unique. But one resource that was naturally present in their surroundings was nothing less than the biggest animals on earth – whales. As active whaling with spears or nets was very dangerous and only successful with smaller or young whales, it was probably passive whaling in the form of beached whales which was crucial for survival over the centuries, providing essential materials including meat and oil. Eventually, small-scale subsistence whaling activity in Iceland ended with the invention of the modern whaling whose purpose was predominantly to obtain oil. This brought a significant decline in whales through over-catching by foreign companies in the late 19th and early 20th centuries. Following the whaling ban from 1915 to 1925, it took until 1948 for Icelanders (in the form of one major enterprise) to succeed in whaling, after the stocks eventually recovered from the foreign-based use of modern techniques in excessive commercial whaling.

5 The Process of Modernisation

Socio-cultural phenomena, such as food, do not only reflect environmental facts, but also a multitude of technological and political-economic influences. In order to explain transformations regarding such aspects, we must first take the natural environmental and then the infrastructural levels (production and reproduction) into consideration, as these are the most probable sources of change. After having analysed the natural and historical conditions in Iceland and with it the use of available resources including whales, let us now illuminate some of the economic factors (infrastructure) which had consequences not only for food habits, but for all kinds of sociocultural elements (structural as well as superstructural) in Iceland. These comparably recent developments which shaped the island and its dietary patterns in a completely new way, were influenced by outside forces – the modern world, including its new production mechanisms that eventually made their way to Iceland.

> "In specific historical-environmental circumstances culture is an open system entering into relation with nature and with other cultures. The character of its habitat will influence a culture's technology, and through technology its social and ideological components. But nearby cultures and the relations effected with them also affect a culture's sociopolitical and ideological subsystems." (Sahlins & Service, 1970 [1960], p. 47).

Let us now examine the broad-based transformations initiated in the 19th century – in general a time of immense transformations all over the world.

5.1 Technological Progress

Until the end of the Danish Crown's trade monopoly and the beginning of foreign trade, the country lived more or less the same way for nearly a thousand years, which meant that "[…] Iceland was throughout the 19th century a primitive, underdeveloped society." (Karlsson, 2000, p. 248) All of a sudden, more international exchange was possible, opening a door that led Iceland step-by-step to become a modern nation.

"The concept of a 'modern' globe has been and is still tied to the consumption of particular kinds of foods, the adoption of particular food production regimes (e.g., industrial agriculture), and the acceptance of particular kinds of food knowledge." (Phillips, 2006, p. 43) This describes a "[…] trend away from self-sufficiency and community to mass production and globalization" (Fieldhouse, 1995 [1985], p. 9), accompanied by a greater diversity of processed foods, less locally produced products, a greater homogenisation and mass standardisation of agricultural products. (ibid.) Even though food patterns rely on the natural environment and the specifically adapted modes of production, "[…] in recent decades changes have occurred with increasing globalisation, as global food markets have opened up, transport has become

more rapid and more efficient techniques for conserving food have been developed. These factors together with increased mobility and increase in purchasing power are some of the reasons why the historically different nutrition patterns in Europe appear to be converging." (World Health Organization, 2000, p. 22)

Before and During World War II

For hundreds of years, Iceland's social system was based on a subsistence economy, which made each household a separate unit of production and consumption. "It was not until the last part of the nineteenth century that the domestic economic order gradually became supplemented by modern, capitalist enterprises, resulting in the growth of fishing villages among other things." (Hastrup, 1998, p. 27) With the introduction of foreign trade and the new and modern harbour in Reykjavík, which was completed in 1917, Iceland became a commercial and maritime centre, replacing even the Danish capital Copenhagen in that role. Four years later, the harnessing of the Eliidaar river outside of Reykjavík to generate hydroelectricity led to a rapid electrification of the town. This boosted mechanisation in industry, which further resulted in the increased availability of locally manufactured goods.

Even though the international trade was rapidly increasing, it was nevertheless still restricted by the Danish, who also imposed high tributes. Due to the Wall street crash of 1929 and the Great Depression of 1931, many foreign markets for Icelandic exports closed and exports fell drastically. As a result, the (still Danish) government once again took complete control of Iceland's foreign trade. Imports were heavily restricted, tariffs were introduced, and the state managed sales of certain commodities such as motor vehicles, electrical appliances, tobacco and alcohol. All foreign trade was strictly controlled: coffee, sugar, flour and other staples were rationed, and imports of unnecessary goods were limited. In spite of all this, Icelandic people could afford a better and more varied diet than ever before. (Árbæjarsafn, 2018)

In 1940, British troops began occupying Iceland as a precautionary move to stop a possible German invasion of the island. In the following years, U.S. troops took over the occupation. Following the end of the war, the U.K. army left Iceland, but the U.S. stayed and made an airbase in Keflavík, which became an important NATO base. (Ellis, 1993, p. 416) Tens of thousands of military personnel were stationed on the island – the majority in and around Reykjavík, which was located about 50km away from the base. The military occupation had a huge impact on Iceland's social and economic life. Iceland not only remained one of very few European countries entirely untouched by the large-scale destruction brought with the war; the war actually led to a huge improvement in the living standards of the Icelandic people. After the difficult Depression years, the British and subsequently the American forces brought a lot

of work and foreign currency to the country. And in European markets, the demand for fish rose and led to increased export revenues. Another consequence of the war was the decreased number of foreign ships fishing in Icelandic waters – not only allowing overfished stocks to recover, but also creating good markets for Iceland. When trade with Europe was ultimately disrupted by the war, Icelandic importers sought out new suppliers in the New World and a variety of American goods became suddenly available. (Árbæjarsafn, 2018)

The occupation by the Allies, together with the international market to which Iceland suddenly had access, led the country to become more and more industrialised, with increased import and export rates. These processes set the economic basis for becoming an independent state, which was finally achieved in 1944 when the Republic of Iceland was declared. This declaration can be seen as the ultimate beginning of modern Iceland. (Durrenberger & Pálsson, 1989, pp. 7-8)

After Iceland's Independence

With the close succession of independence from Denmark and the end of the Second World War, imports to Iceland increased almost instantly. But foreign currency was soon in short supply, as the new Icelandic government still exercised control over foreign trade. The last import restrictions were not lifted until 1960, when demand for a larger variety of goods exceeded the previously available supply. After many years of import controls, trade became much freer in the 1960s and a wide range of commodities became accessible for the first time. Shortly after in around 1970, spending patterns changed. A smaller proportion of Icelanders' income was spent on necessities such as food, clothes, heating and electricity, and more money was spent on cars, furniture, education, travel and leisure pursuits. Iceland became a member of the European Free Trade Association (EFTA) and made agreements with the European Community (today's European Union), which gradually opened the economy. The protective tariffs on imported industrial goods were finally abolished and Icelandic manufacturers faced free competition with foreign goods. Through the increase in foreign travel and immigration, Icelanders became acquainted with new kinds of food. Exotic recipes in magazines were popular, special events to learn about herbs and spices were held by shopkeepers, and foreign restaurants even opened for the first time in Iceland's history. With the introduction of refrigerators and freezers, new foods and preparation methods became possible. At this time, the first supermarkets also were established based on U.S. models which combined many different shops in one. (Árbæjarsafn, 2018)

At the end of the 20th century, communications between Iceland and the outside world were revolutionised by computers and access to the internet. Commercial relations between Iceland

and the international markets were further strengthened by agreements. In 1989, the last remnant of Prohibition was abolished. Alcoholic beer was finally legalised, with pubs and clubs appearing all over Reykjavík and attracting foreign tourists, while Icelanders themselves started travelling farther as foreign-currency restrictions were lifted. The government's role in trade and commerce was gradually cut back and public corporations were privatised. (ibid.)

„As environments change, organisms must adapt to those changes, a process that can entail a variety of mechanisms." (Sutton & Anderson, 2004, p. 8) Such environments do not necessarily have to be in the natural realm. Changes in the socioeconomic environment can also stimulate certain mechanisms in a social system. In Iceland, this stimulation was the influence of the modern world finding its way to the island. With the access to foreign trade, the construction of an international harbour and the generating of electricity, a modern industrialised economy started to supersede the old subsistence-based one. This trend was only intensified by the Second World War. With the U.K. occupation, but especially the arrival of U.S. troops, work, foreign currency and new goods made their way to the increasingly less-isolated island and set the basis for independence. Agreements with the EFTA and the European Community further increased imports and exports, resulting in quickly changing consumption patterns, with new foodstuffs and preparation methods becoming accessible. Within only a few decades, Iceland's production mechanisms changed completely with drastic consequences for other parts of their society.

5.2 Social Progress

In general, industrial organisation has arisen under the pressure of human wants and activities. (Spencer, 1972, p. 57) Compared to other European countries, modernisation came late – not until the Second World War – to Iceland. This development not only concerned imports and thus foodstuffs; rather, it was a huge macrosocial transformation which affected all aspects of the social system. One unavoidable consequence of modernisation and globalisation was a shift from self-sufficiency to import-reliance and mass production. The increasing dependence on imported food ultimately weakened the domestic agricultural sector, resulting in more processed and less local foods, and thus a greater homogenisation.

With this progress, the social system in Iceland, as in other Western countries, became capitalistic and led to a high specialisation, or in other words, individualism. As we explained in the first chapter, with an increase in size, the social aggregate increases in structure. Originally simple, it subdivides into more and more parts and becomes an increasingly

complex organisation. The high complexity and labour division result in people having more specialised roles and having less in common with other members of the same system, even though they are simultaneously becoming more dependent on that system. From the once territorially limited production which was used by the local group, production is now diffused worldwide and used among different nations.

The progress first experienced by the island around the turn of the last century due to changes in modes of production (international trade, industrialisation) can be called social evolution. We have already seen that social evolution is a function of technological development. "Other factors remaining constant, *culture evolves as the amount of energy harnessed per capita per year is increased, or as the efficiency of the instrumental means of putting the energy to work is increased*." (White, 1969 [1949], pp. 368-369) Social progress is therefore a mode of *change*; it is "[…] not an accident, not a thing within human control, but a beneficent necessity." (Spencer, 1972, p. 52)

This progress finally opens the way for a (further) growth in population. (Spencer, 1972, p. 50) As production and reproduction are ultimately linked together (both part of the infrastructural level of a social system), and the growth in one often stimulates growth in the other (Elwell, 2013, p. 35), we can see in Figure 13 that the number of inhabitants remained relatively constant until around the turn of the century. It is even more impressive if we compare the number of settlers who arrived in Iceland between 874 and 930, which is estimated at 4,300 to 24,000, to the year 1100, when the population was at 50,000. This number ultimately stayed the same until around 1840, which shows how the population remained constant for centuries. (Karlsson, 2000, p. 15) This was also due to the many natural disasters, severe volcanic eruptions and consequent famines, and plagues, as Icelanders were always subject to natural forces. In the mid-19th century, a rise in the population was finally observable when the standard of living increased due to the beginning of foreign trade. After 1900 a quick growth is recognisable, with a deceleration in the 1930s, which can probably be traced back to the Depression years. But starting in the year 1944, with the end of the war and the end of the Danish power over Iceland, the population growth literally exploded.

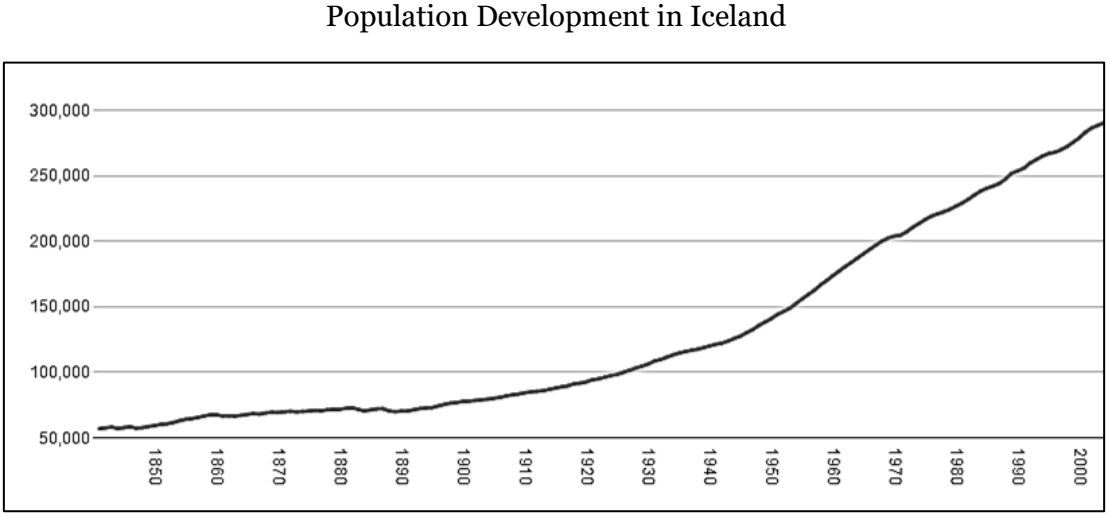

Figure 13: Population Development in Iceland 1841-2019 (Statistics Iceland, 2020)

All these developments led also to a growth of urban populations who relied almost completely on purchasing food. (Ericksen, 2008, p. 236) "The shift from subsistence pastoralist farming to fishing, together with population increase and the administrative demands of a national capitalist economy, has radically reorganized demographic distribution such that most people live in urban centers […]." (Brydon, 1996, p. 38) This can be seen in the following graphic, illustrating the population development in the capital Reykjavík. Starting with only 127 inhabitants in the year 1786, the urban population grew gradually. From the late 19th century on, this trend accelerated, and exploded with the beginning of the 20th century. Between 1940 and 1960, Reykjavík's population grew by 60%, from 43.841 to 72.407.

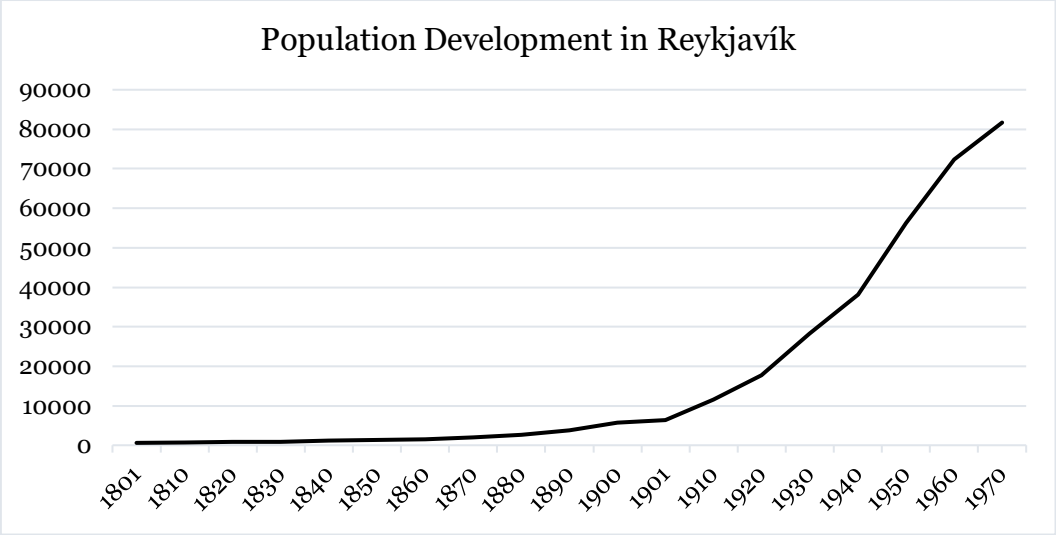

Figure 14: Urban Population Development (based on The Reykjavík Grapevine, 2011)

These immense changes of both production and reproduction mechanisms had further influence on the structure, and therefore on domestic and political organisation, which becomes especially clear with the radical change of government. “These infrastructural changes form the fundament for social organization – within nation-states themselves as well as in the very formation of the latter and their international relationship. Therefore, in etic infrastructural terms, it is based on industrial production.” (Begemann, 2016, p. 80)

This far-reaching transformation, mainly induced by international exchange on multiple dimensions, included structural changes concerning organisation (such as urbanisation), a new political and domestic order, and ultimately even superstructural changes. “The introduction of a new idea or practice may be termed an innovation and it usually originates from an external source. Whether the innovation is accepted or not, and the speed at which it diffuses throughout a society is dependent on a variety of factors […].” (Fieldhouse, 1995 [1985], p. 13) The sudden exchange with other nations – modern nations – brought a variety of new practices and with them new ideas in Iceland. Through trade with the Americans and the occupation, new jobs and new production methods were introduced. Apart from the new products, TV and radio channels offered new forms of popular culture, including music, dances, films, and thus the American way of life was brought to the Icelanders – an “Americanisation” to which Icelanders started to adapt. (Árbæjarsafn, 2018)

The “Law of Cultural Dominance” indicates that “[c]ultural systems that exploit the energy resources of a given environment in the most effective way, will tend to spread in that environment at the expense of less effective systems.” (Sahlins & Service, 1970 [1960], p. 75) This is obviously true when we compare the efficiency of Iceland’s subsistence economy with the modern world’s industrialisation. This is also a “[…] trend toward a greater convergence and consequent homogeneity of culture type, accompanied by a decrease in the diversity of cultures.” (ibid. pp. 72-73) Modernisation processes therefore result in an increased homogenisation of cultural and even natural environments, through industrialised agriculture and urbanisation for example. (Hannerz, 1992, p. 262) Such major technological inventions, therefore, not only alter the means of subsistence but also influence the structural and ideological sectors of a cultural group. (Harris, 1975 [1971], p. 229) Norms change when other components of a society change. And when a new structure becomes the norm, a new value system will develop, too. (Eriksen, 2010 [1995], p. 64)

To conclude, with advancements in the mode of production as a part of a social system‘s infrastructural layer, the mode of reproduction does not remain untouched. After 1,000 years of nearly no population growth, the Icelandic population essentially exploded following the developments of the last century. Through the rise in imports and the decline of subsistence

economy, people relied on purchasing foods in urban centres. This means that through modernisation and industrialisation processes and the accompanied increase in the harnessed energy from their environment, Iceland turned into a urban, capitalistic and highly specialised and individualised nation. This is what we previously declared a social progress. Such changes of both production and reproduction mechanisms, or the infrastructural layer, did not end with the change in the structural layer, including a new political order. Cultural elements that are categorised in the superstructural layer of a social system in the form of media, music, dance etc. made their way to Iceland, too. Therefore, new technologies, new products and new systems are ultimately linked to completely new lifestyles and even new values, as part of the emic mental superstructure. All these developments are nothing other than logical consequences of the initial change, including a general trend towards greater homogenisation, which can equally be applied to foodstuff and food habits. In the next chapter, we will elaborate in detail how these alterations had consequences for dietary patterns in Iceland.

5.3 Impacts on Dietary Patterns

> "The modern individual, of whose body and need we now speak, is the product of the Industrial Revolution and the rise of an economic system given over more and more to the gratification of individual consumption. That system has distinguished itself by its success not only in producing the consumables, but also in specifying and defining the needs." (Mintz, 1996, p. 78)

Material variables such as population and production are central in explaining the origin, maintenance and change of sociocultural systems. (Elwell, 2013, p. 37) This includes the process that leads to either a continuity or a change in foodways – those with a less favourable cost-benefit balance usually get neglected, while those with a more favourable cost-benefit balance get selected. (Ross & Harris, 1987, pp. 5-6) According to food anthropologist Sidney Mintz, fundamental dietary changes more often occur by adding new food items, rather than just diminishing older ones. (Mintz, 1985, p. 13) Traditional food habits have repeatedly experienced great change simply by new food items or methods of production and preparation with a better cost-benefit ratio becoming available, or when economic and demographic contexts change (Roosevelt, 1987, p. 565), just as they did in Iceland.

In the last millennium, the Icelandic diet consisted mainly of animal products, as not much else was available. "At the beginning of the 20th century, fish could easily be served in some households for breakfast, lunch and dinner – fresh, dried, salted, smoked or cured. Indeed, most modern middle-aged Icelanders have memories of fish being served three to five times a week during their upbringing." (Amilien, 2012) As we already elaborated, most vegetables and fruits are unable to grow in Iceland due to the harsh and cold climate. "Until the mid-

nineteenth century the type of production and the general economic conditions of Iceland set the parameters for food production and consumption. Farming and fishing provided a livelihood for most of the population [...].” (Jónsson, 1998, p. 24) That began to change with the rise of foreign influences, including imports, even though “[f]ood habits are acquired early in life and once established are likely to be long-lasting and resistant to change”. (Fieldhouse, 1995 [1985], p. 3) As foods are ultimately selected to provide an adequate diet at the lowest cost and risk, it seems logical that the adoption of a consumption pattern which accompanies the new globalised industrialised purchase-based mode of production and involves a huge variety of products, is more cost-efficient than the centuries-old tradition of very limited household-based production and consumption.

The Shift in Product Availability

“Traditionally, about 90% of all foodstuffs were produced locally, whereas imported foodstuffs gained increasing significance until it reached the stage where more than half of all the food consumed by its inhabitants was imported in 1910.” (Jónsson, 1998, p. 36) For a long time, grains were pretty much non-existent in the Icelandic diet. Only small amounts of rye, barley and oats were imported from Denmark, but with the abolishment of the Danish trade monopoly, grains became not only more available, but also more affordable. A more varied consumption of cereals can be traced back to the increased imports of flour, which made baking bread and cakes possible, as well as oatmeal for porridge and blood pudding. (ibid.) “Iceland has followed the global trend of increased crop diversity in the food supply, but also increased dominance by a small subset of cereal and oil crops as part of the global homogenization towards a Western diet.” (Halldórsdóttir & Nicholas, 2016, p. 2)

But fruits in general, eggs and various sorts of vegetables appeared in Iceland around the turn of the century. “An historic turning point was reached in the last decades of the century, when cereals replaced milk products as the principal source of food, accounting for more than a third of the energy intake by 1900 [...]”. (Jónsson, 1998, p. 36) Milk products, on the other hand, dropped to less than one-fifth of the total energy intake. (ibid.) Furthermore, for the first time, luxury commodities such as tobacco, spirits, coffee beans and sugar became available. (Karlsson, 2000, p. 227) And with the introduction of baking ovens, bakeries were established, and sweets became widely popular. (Fæða / Food, 2018, p. 24) This led to an increase of the share of sugar in the total consumption from 7% at the turn of the century to 14% in 1928, and that of plant-based foodstuffs from 48 to 58%. Meanwhile, the overall share of imported foodstuffs rose from 46 to 54%. (Karlsson, 2000, p. 294)

"The overall change in the Icelandic diet can be characterized as a transition from almost exclusively animal-based foodstuffs to more vegetable-based ones." (Jónsson, 1998, p. 36) The proportion of animal-based food declined from 90% in 1774 to only 52% in 1900, continuing to decline to only 42% in 1938. In contrast, plant-based foods reached 50% in 1910. (ibid.) Besides the crops which were increasingly grown outdoors in Iceland, including carrots, rhubarb, rutabaga, cabbage, leeks, potatoes, cauliflower and kale, as well as rapeseed and barley, vegetables are increasingly grown in greenhouses – above all cucumbers and tomatoes. With origins in 1924, the greenhouses are heated by geothermal energy from the hot springs. This results in an independence from the harsh weather and the cold temperature, and enables a year-round growing environment. (Sheen, 2011, p. 15)

Between 1930 and 1960, imported fruits and vegetables were rationed by the government, who encouraged locally grown vegetables and fruits – but these did not reach a sufficient base to provide for the whole country. These restrictions were only lifted in 1970 when Iceland joined the EFTA, which revolutionised the availability of foods in Iceland. (Fæða / Food, 2018, pp. 24-25) "Before, it [fruits and vegetables] was only something like a Christmas luxury, because only vegetables like beets, potatoes, and cauliflower were available. Then, zucchini, carrots, and so on, for which they had to invent new Icelandic words." (Anon. Int., 2018[3]) Consumption of vegetables further increased from 32.4kg per person in 1981 to 44.5kg in 1997 and the consumption of fruits from 48.8kg to 61.6kg. Nevertheless, consumption of fruits and vegetables is among the lowest in Europe. (World Health Organization, 2000, p. 23)

According to the Icelandic Nutrition Council, the Icelandic diet has experienced considerable change in recent decades, but some of the characteristics rooted in traditional food production still remain. Fish, lamb and milk have traditionally been the main foods produced in the country, and still make up a big share of the national diet. (World Health Organization, 2000, p. 23) Even though the consumption of fish was 650g per day in 1900 and decreased to 200-300g in 1939, and finally to only 44g in 2010, it is still high compared to other European countries. Stockfish (air-dried cod) was an important food for centuries but has since been replaced by fresh and salted fish. The daily consumption of milk and dairy products declined from 1,400g in 1900, to 890g in 1960 and even to 323g in 2014. (Fæða / Food, 2018, p. 24) In only 16 years, the consumption of whole-milk declined from 221kg per capita in 1981 to only 98kg in 1997, whereas the consumption of margarine decreased from 12.0 to 7.2kg. (World Health Organization, 2000, p. 23) Concerning meat, the consumption of domestic sheep dominated until the last few decades. Pork rose to just 1% of the meat consumption by the 1950s, and chicken hardly existed until the 1990s. Today, chicken is the most popular meat, with lamb and pork sharing second and third place. In recent years, the demand for beef has

[3] "Anon. Int." refers to Anonymous Interview

increased and domestic cattle-raising has shifted away from focusing entirely on milk production. And for the first time, wheat has replaced rye in popularity. (Fæða / Food, 2018, pp. 24-25)

The huge dependence on animal-based foods for centuries set tight limits to the size of Iceland's population. The availability of cheap grains upset the traditional balance between food supply and population and paved the way for population expansion. "From a demographic point of view, Iceland's foreign trade in foodstuffs is an exceptionally good example of a favourable exchange in calories, the replacement of expensive calories (fish and meat) by cheap calories (cereals, sugar and margarine), thus not only stimulating population growth but also making it possible for more people to live outside the traditional, largely subsistence, economy." (Jónsson, 1998, p. 41) This started the production of consumer goods, which for the first time acquired a considerable domestic market for its surplus products. The increase in urban population and its purchasing power was a condition for a process of modernisation. (Karlsson, 2000, p. 291) People in Reykjavík and its surroundings adopted a more international diet than people in rural areas, who still had a much fattier diet with large quantities of animal-based foodstuffs like dairy and mutton. (Amilien, 2012) This difference is still perceivable today.

Today's Food and Import Behaviour

As elaborated, foods that are preferred have a better balance of benefits over costs. This can mean that they simply contain more energy, proteins, vitamins, or minerals than other foods. (Harris, 1985, p. 15) In the diet of a modern-day Icelander there is little left that resembles their traditional diet, consisting mostly of products of animal origin. "Few European populations have experienced greater transition in diet than Icelanders in recent decades." (Amilien, 2012) For most people, vegetables and fruits are now part of the daily diet. It is no longer the traditional lamb or mutton which dominates the meat market, and along with fine grain wheat breads, pizzas, and pasta, sugary carbonated drinks have become abundant. Today, Icelandic protein intake accounts for 18% of total energy and is still somewhat higher than in neighbouring countries. (Amilien, 2012) In 2016, the average diet consisted of 21% dairy products, 20% cereals, 17% meat, 14% sugars, 6% oils, 5% fish and 5% vegetables. The remaining 12% is made up of beverages, fruit, dairy, beans and nuts. Altogether, dairy, cereals and meat represent 58% of the overall calorie supply. (Halldórsdóttir & Nicholas, 2016, pp. 6-7)

All in all, Iceland is reliant on imports for about 84% of its consumption. An entire dependency on imports can be seen in the supply of cereals, oils, and fruits (100 %). Also imported in large amounts are vegetables (61%), nuts and beans (50%), and beverages (39%). However, the nation is not reliant on exports for meat and dairy products (99%). In total, 50% of current food needs in Iceland come from imported foods. Even though meat and dairy production is self-sufficient, its production is nevertheless linked to cereals for animal feed, which are provided mostly by import. Iceland is highly dependent on this, importing 24,592 tons of fodder. (ibid.)

Imported vs. Locally Produced Food

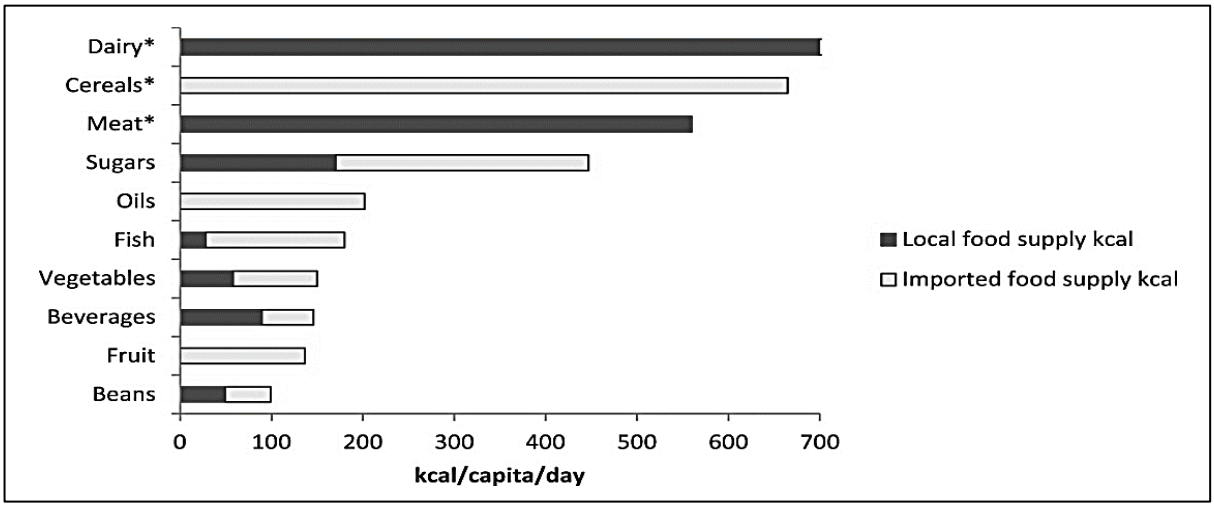

Figure 15: Imported vs. Locally Produced Foodstuff (Halldórsdóttir & Nicholas, 2016, p. 7)

Hence, imports have become an absolute necessity in Iceland. Only about one fifth of the land mass is vegetated land or pasture. Of this area, less than 5% is cultivated, while the rest is only used for grazing or is left undeveloped. The main crops include hay and cereals for animal feed, and root and green vegetables, which are cultivated primarily in greenhouses. Imports of meat, dairy products and some vegetables that compete with domestic production are subject to tariffs, import quotas and non-tariff import restrictions. Furthermore, nowadays Icelandic agriculture is heavily subsidised. (Seðlabanki Íslands, 2019, p. 21)

Despite all the progress and the shift to more plant-based foodstuff, Iceland is still one of the top nations in Europe in regard to consumption of milk and dairy, fish, lamb, sugar and soft drinks. (World Health Organization, 2000, p. 23) Because of this, they actually rank highest of the Nordic nations in the proportion of obesity and people who are overweight. (Fæða / Food, 2018, pp. 24-25)

In conclusion, Icelandic life reached new standards when international trade, and thus imports, became accessible. As the modern and industrialised mode of production based on purchasing imported items offers a wide range of new and nutritionally more valuable products, it seems logical to opt for this mode of production and against producing very limited foodstuff for household consumption, although this was the tradition (or simply the necessity) for a thousand years. In particular, the sudden availability of grain resulted in a replacement of dairy, fish and meat, especially mutton, as the main components of Icelandic diets. In general, more vegetables and fruits were imported and even cultivated in greenhouses. All this led to a more plant-based diet. But new technologies like baking ovens, or new luxury items like alcohol, tobacco, coffee, or sugar also brought many new possibilities and clearly show the massive impact the modernisation process of the 20th century has had. In the end, we must say that in explaining the radical changes Icelandic dietary patterns underwent in only a short time, there "[…] remains little doubt that dietary selectivity is a function of infrastructural characteristics." (Ross, 1978, p. 16) But such social progress did not stop with food and food-related habits. Not only did it stimulate population growth, it had also further consequences on seemingly unrelated parts of the society.

5.4 The Rearrangement of (Inter-)National Whale-hunts

We know that whales played a significant role in Iceland's history of survival. To understand and explain the meaning of whales and whaling in Iceland, and how this has changed in the last century, it is necessary to point out the developments concerning this subject on an international scale. But why is this so important? Because Iceland suddenly became part of a modern world, and even more significant – a globalised world. This fact made whales and whaling not only a topic of concern on a national level, but one on an international.

After our analysis of the meaning of whales in the history of Iceland in Chapter 4.3, we know that commercial whaling has been undertaken around the island since the 17th century, when the Basques started hunting whales in Icelandic waters. After that, the number of nations that actively whaled in and around Iceland grew further. Iceland's own participation in commercial whaling did not really start until 1948, when the owner of Hvalur H/F bought modern equipment from Norwegian whaling companies that were stationed in Iceland. (Cunningham, Huijbens, & Wearing, 2012, p. 149) But the oil that is extracted from the whale blubber, which was once so valuable, became subjected to continuously increasing competition from other substances like mineral or vegetable oils, e.g. cottonseed and linseed oil. This technological advancement, or development in the mode of production (another result of the world's modernisation), caused a collapse in the price of whale oil. Suddenly, hunting whales for oil

was no longer so lucrative. “The general trend was unmistakable” (Tønnessen & Johnsen, 1982, p. 10), and led many nations to decrease their whaling activities or cease whaling completely. What took place next was that international agreements on the restriction on whaling began to appear. With the dawn of this new era, the overall development of whaling can be divided into three sections: (1) free whaling, (2) locally or nationally regulated whaling, and finally (3) internationally regulated whaling. (ibid. p. 9)

The Rise of a New Norm

With the aforementioned changes in the modes of production, the importance of whales declined rapidly, with consequences on non-material parts of societies all over the world. “[…] [N]orms change through time as society changes; some vanish, some are replaced by others, others are reinterpreted, and yet others remain but are accorded reduced importance.” (Eriksen, 2010 [1995], p. 64) The developments which came along with the process of modernisation led nations to cease commercial whaling, as it were no longer paying off, resulting in the further adaptation of an accordant ideological support. Hence, as Mintz put it, the existing developments in infrastructure “set the terms” for meaningful constructions. (Mintz, 1996, p. 21) All of a sudden, it became a global fear that a continuation of whaling could lead to the extinction of whales, which caused the “Save The Whales” campaigns of the 1970s, using whales as a symbol of a natural environment which needs to be protected. This meant that within a few years, whaling shifted from obtaining a vital resource to a morally objectionable undertaking. This moral conception started to spread throughout all Western modern nations, including ex-whaling ones and demonstrates how changes in the infrastructure, such as new modes of production, further result in changes in the superstructure, like beliefs, values and norms, which serve as a functional support to the structure. As Kristján Loftsson, the director and son of the founder of Hvalur H/F put it, “there is no commercial interest for EU countries. It’s easy to be against it. The biggest countries, anti-whaling countries, in the whaling commission – they are all ex-whalers, like the United Kingdom, Holland, Germany. Especially those in the EU, they are all ex-whalers.” (KL, 2018)

In Iceland, whalers and supporters of whaling at first believed that these campaigns were targeted against large whaling nations like the Soviet Union or Japan and therefore not comparable to the small-scale whaling in which they were engaged. “Furthermore, since the United States and Great Britain were at the front of the anti-whaling movement and two of the major whaling nations were the Soviet Union and Japan, the anti-whaling sentiment was often interpreted in the North Atlantic as an expression of political opposition to the Soviet Union and economic fear of Japan rather than as an environmental issue at face value.” (Oslund, 2011, p. 164) But after large whaling nations successively stopped whaling – the U.S. in 1924, the

U.K. in 1963, the Netherlands in 1964, Canada in 1972, Australia in 1978 (Tønnessen & Johnsen, 1982, p. 10) – this trend led to the IWC Moratorium on commercial whaling. The "International Whaling Commission" (IWC), established in 1948, was a global agreement in which member countries assigned a commission to the task of regulating free and open oceans. And their Moratorium consisted of none other than a zero-catch quota, which took effect in the 1985/6 hunting season for the determination of whale stocks. (Savelle & Kishigami, 2013, p. 7)

This decision, imposed by the outside world, had immense consequences for Iceland and was not welcomed by the little island. Iceland was still a young and still a less modern country compared to these bigger and economically strong nations. Moreover, in contrast to them, Iceland caught whales not only for oil, but also for meat and their impact on the fishing sector. In particular, the "indigenous whaling" clause sparked conflict, as it constituted an exception to the zero-catch quota. Whaling which was classified as "indigenous" was not restricted, only imposed with quotas, while the type which was classified as "commercial" or "industrial" was. For example, the IWC regulations approved of the indigenous whaling of about 200 whales per year in Greenland, in addition to whales which were taken for scientific purposes, while the Icelandic minke whale catch, roughly equal in number, was forbidden. Iceland's argument was that their practices did not endanger the whale populations any more than "indigenous" practices, as they too used modern industrialised technologies. Others even argued that the reasoning was not scientifically grounded but based on the tradition of the Western romanticisation of indigenous peoples. (Oslund, 2011, pp. 163-165) The fact that the membership in the IWC was open to any nation was also critiqued. Non-governmental organisations (NGOs) used this to persuade non-whaling nations to adopt anti-whaling policies and to join the IWC because all their decisions are made by 3/4 majority. (Brydon, 1996, p. 31) This resulted in heavily polarised battles between NGOs, whalers, envoys of nations, diplomats, scientists, environmentalists, advisers and the media over the control of whales. (Durrenberger & Pálsson, 1996, p. 28) "In this environment, the whale has become a floating signifier in a choppy sea of legal, scientific, moral, and economic discourses." (Brydon, 1996, p. 28)

The Situation in Iceland

"A country faces a multi-dimensional decision of whether and at what intensity to engage in whaling." (Herrera & Hoagland, 2006, p. 267) By Icelanders, the animals were often perceived as competitors for scarce resources on the island, and even as hazards to boats and the people engaged in fishing. (Brydon, 1996, pp. 41-42) There are many stories of whales sinking boats and whales as predators competing with and depriving fishers of fish. (Fitzmaurice, 2015, p. 138) While fishers experienced a decline in fishing quotas, whales were consuming tons of fish

that would otherwise be available to fishers. This posed a serious threat to their livelihood. According to the researcher Gísli Víkingsson from the Marine Research Institute, whales included an annual consumption of 140,000 tons of cod – approximately 10,000 tons more than the fishing quota for the season of 2008. A scientific paper, which focused on the effect of minke whales on cod and herring in Norwegian fisheries, concluded that "the cost of predation is large, a 10% increase in the 1989 minke whale stock causing estimated damage over seventeen million $US in value, 5.2 and 12.4 percent respectively of the total gross profits of the Norwegian cod and herring fisheries". (Einarsson, 1996, p. 50) In Norwegian fisheries, the average net annual predation cost per minke whale in 1991/92 was calculated at 10,000 USD, while Iceland has about 14,000 of them. With all whales in Icelandic waters included, research indicates that annual consumption could be between 4.6 and 4.8 million metric tons. (ibid.) Icelandic fishers claim, therefore, that since the Moratorium, the numbers have been out of control and endangering their livelihood. Their argument is that whales, like other animals, should be treated as pests and must therefore be controlled. (ibid. p. 51)

How fishers perceive whales is influenced by their role in the ecosystem and their effect on fish stocks, and thus the consequences they have on fishers' livelihood. (Einarsson, 1996, p. 51) This is part of what we would call the superstructural level, consisting of belief systems, which support Iceland's whole production mechanisms, based on fishing and farming. "All this is transforming whales into vermin for fishers. Not only are fishers forbidden to hunt whales, but they also must accept that whales may literally be eating away their basis for subsistence." (ibid.) More small-scale fishers have been forced to give up fishing. As one interviewee said, "if they overpopulate, it's less fish for us" (SU, 2018), while another one indicated: "Whales eat so much fish every year, that they have to hunt whales to have enough fish for the market." (Anon. Int., 2018) Thus, should whaling continue, fishery rents could increase. "This linkage increases the marginal benefits of whaling, leading a government planner to subsidize the entry of whaling firms beyond the open-access point or even to extirpate the predatory whale stock." (Herrera & Hoagland, 2006, p. 267)

In essence, the Moratorium meant a limitation on Iceland's sovereignty, including the way in which it determines its own fisheries policy. (Fitzmaurice, 2015, p. 138) In fact, whaling is part of the fisheries in Iceland and thus connected to notions of property and resources. (Brydon, 1996, pp. 41-42) In general, Icelanders have a practical attitude with the resources they live off, formed by a long dependency upon them. Their attitudes toward animals, especially sea creatures, are shaped by this fact, because for centuries the sea was their most important resource. And since fisheries were still Iceland's most important economic sector, in effect it still was. Fishers (and thus whalers) maintain that they have the right to manage animals in the ecosystem in which they participate. (Einarsson, 1996, pp. 46-48) They do not believe that

whales are more special than other animals and should thus be spared from hunting. Whalers see environmentalists as emotionally-driven, sentimental, irrational and naïve about the necessity of hunting animals. (Fitzmaurice, 2015, p. 138)

This is Iceland's superstructural support for their infrastructure. "The government contended that whaling was a long-standing practice in Iceland that should therefore be culturally protected and that the minke whales hunted were not in fact endangered, unlike other larger whale species." (Oslund, 2011, p. 160) Their arguments contained similarities to those of the indigenous rights claim: Icelanders' relationship to nature stands in contrast to that of urban residents in other countries, as they were in constant struggle for survival with the harsh conditions of their environment – similar to the situation of coastal Norwegians. They wanted to take a strong stand against pressures from larger nations and did not want to appear manipulable and endanger their sovereignty. On the other hand, they also did not want to budge in regard to terrorists like those of the foreign environmental group "Sea Shepherd Conservation Society", who sabotaged whaling boats and equipment – but we shall elaborate more on this matter later. (Oslund, 2011, pp. 165-166) Overall, they held the opinion that the fishing industry should be protected as a question of sovereignty as it was still the most important activity for the country's GDP, and that whales, just like other animals, should be viewed as a resource. (Brydon, 1996, p. 27)

National Reactions to International Decisions

Even though change is sometimes inevitable for the essential well-being of a society, it is often not readily accepted, but met with great resistance. (Brydon, 1996, p. 13) After commercial whaling was internationally restricted in 1985/6, countries that wanted to continue whaling, such as Russia, Japan, Iceland or Norway, had to find another way. The solution to this problem was whaling for scientific purposes, called "scientific whaling". (Ellis, 1993, p. 416) This was introduced in 1987, two years after the Moratorium. Many international scientists protested because the scientists involved in scientific whaling were allegedly often employees of the governments, and sometimes under instruction to argue for reasons other than science. (Brydon, 1996, p. 32)

Iceland maintained a small scientific whaling program between 1987 and 1989. During this time, they killed around 60 whales per year, whereas before, the main whaling company Hvalur H/F alone processed about 300 to 400 whales per year, representing a total of some 15,000 whales. (Rasmussen, 2014, pp. 82-83) But the introduction of scientific whaling led to a dispute between Iceland and the U.S., and Iceland responded with the threat to oust military troops from the Keflavík air base. Eventually, NGOs started boycotts against the Icelandic

fishery industry, which put the whole economy in jeopardy. Big companies that purchased from Icelandic firms, for example "Wendy's", stopped their orders. As a result, Iceland agreed to not hunt sei whales anymore, only minke and fin whales, but in the end stopped all whaling in 1990 in the hope that the restriction would be lifted. (Ellis, 1993, pp. 418-419)

Minke whalers compensated their lack of income with winter fishery. "Some have become bankrupt and lost their boats, others have managed to survive hoping that the ban on whaling would be lifted in the near future." (Pálsson, 2000, p. 9) Heeding the command of an external organisation which was denying them their ancient right to hunt whales, particularly when it had granted rights to indigenous hunters in other parts of the world, was incomprehensible to most of these people – especially since the products of minke whale hunting in Iceland were consumed primarily by the households of the crew men and sold directly to local people. Only the remainder was packaged and sold to domestic markets and finally to other countries like Norway, the Faroe Islands or Japan. (ibid. pp. 9-10) "The whaling issue [...] has evoked an emotionally charged nationalist reaction by its direct challenge to the boundaries of sovereign Icelandic territory and the presumed natural right of Icelanders to decide what are or are not to be used as productive resources." (Brydon, 1996, p. 26) Lastly, the government aimed to promote a return to commercial whaling as part of what it calls "the rational management of the ocean ecosystem". Surveys from 1989 showed that this was supported by around 75% of the adult population. (ibid.)

The overall intention of the Moratorium was the investigation of the status of whale stocks, but these analyses took longer than anticipated. This meant that it was not lifted in 1990 as originally planned. (Brydon, 1996, p. 31) In response, Iceland quit the IWC in 1992 and collaborated with Norway, Greenland and the Faroe Islands to create a new organisation for the management of sea mammal hunting. Unlike the IWC, the "North Atlantic Marine Mammal Conservation Organization" (NAMMCO) limits their membership to nations that are engaged in hunting marine mammals. In addition, they conduct their own research on the status of the North Atlantic whale stock. (Brydon, 1996, p. 34). The "High North Alliance" (HNA), which functions mainly as a lobbying organisation, was also founded, and Iceland joined the "World Council of Whalers" (WCW) – a group advocating primarily for the rights of whaling peoples. Much of the pro-whaling literature treated groups like the Faroe Islanders, the Japanese, the Norwegians and the Icelanders as small-scale whalers or indigenous people by referring to them as "coastal communities" or "artisanal whalers" with the purpose of blurring the categories of Western/commercial whaling and indigenous/subsistence whaling. (Oslund, 2011, pp. 166-167)

In 2006, the Moratorium from 1986 was finally due to expire. For this reason, Iceland returned to the IWC in 2002 with legally argued concerns against it, citing the need for scientific

research and the establishment of promised IWC whaling quotas. (Cunningham, Huijbens, & Wearing, 2012, p. 149) In 2003, Iceland therefore resumed scientific whaling. “Whales eat so much fish every year, that they have to hunt whales to have enough fish for the market. That’s why they reintroduced whaling after some years.” (Anon. Int., 2018) But the IWC made the decision not to alter its policy because its scientific inquiry in the whale population was not yet clarified. Shortly after, in 2006, Iceland started practicing limited commercial whaling again, starting with the hunting of minke whales. (Oslund, 2011, p. 168)

Following this examination, we can say that the emerging restrictions on commercial whaling and the perception of whales as extraordinary animals who must be protected is linked to changes in the mode of production through modernisation, industrialisation and globalisation processes. Aside from the fact that whales had always played a special role in the history and survival of the country, Iceland’s most valuable resource was indeed fish, which is still true to this day and forms their most important industry. As “[…] commercial fishery rents always increase with reductions in the size of the whale stock” (Herrera & Hoagland, 2006, p. 265), it is more cost-effective for countries with valuable fish stocks to engage in whaling. (ibid. p. 268) This is still perceivable in the values, beliefs and philosophies that Icelanders continue to hold. We can see that the mindset of countries has changed whose whaling activities have yielded fewer economic advantages, and how the mindset of other countries whose whaling activities still have economic relevance has not changed to the same extent. This leads to yet another comprehension of how various components of social systems are interconnected and can change – above all how the superstructure can be determined by the infrastructure. “Changes in roles and in their accompanying ideologies can be explained only within a larger material context. They cannot be understood apart from the productive and reproductive imperatives that prevailed at the time changes occurred.” (Margolis, 2000, p. 5)

6 Unforeseen Events and Accordant Adjustments

“Because human behavior is shaped by the particular institutional configuration of society at that point of history, any explanation of behavior must begin by understanding the corresponding historical ‘moment’.” (Plattner, 1989, pp. 380-381) After analysing Iceland’s natural and historical background as well as the developments of the 20th century in relation to production modes and their implications, we can now focus on specific “moments” or circumstances at the beginning of the 21st century that have had enormous effects on various components of the social system in Iceland.

6.1 The Financial Crisis

With rising modernisation and industrialisation in Iceland, the economy became highly export-driven, with marine products in particular accounting for most exported goods. The fishing industry with its 40% of export income was still the most important industry in Iceland. Other exports included aluminium, ferro-silicon alloys, machinery and electronic equipment for the fishing industry, software and woollen goods. Most goods are exported to the EU, EFTA countries, the U.S. and Japan. The main industries in Iceland apart from fishing are tourism, aluminium smelting, ferrosilicon production and geothermal as well as hydro power, while the main imports are machinery and equipment, petroleum products, foodstuffs and textiles, mostly from the U.S., Denmark, Germany and Norway. (European Environment Agency, 2019)

After 2003 (directly after the resumption of scientific whaling), Iceland experienced a period of economic upswing which was also initiated by investments in the aluminium and power sectors. The annual GDP growth was more than 7% in 2004-05. This brought a boom in planning, building and construction activities. Between 2000 and 2006, artificial surfaces increased by 64 km^2, urban sprawl by 10%, industrial and commercial sites by 20%, new summer house areas and golf courses by 15%, and several construction sites for residential and industrial districts along with a new hydropower plant in eastern Iceland, by 1055%. (European Environment Agency, 2019)

So far, everything looked positive – until October 2008, when Iceland's financial system collapsed. This led to a severe financial crisis; relative to the size of their economy, it was "[…] the most severe financial crisis a country ever experienced." (Ólafsson, 2011, p. 4). The external debt was 9.55 trillion ISK, which is equivalent to 50 billion EUR and more than 7 times the GDP of Iceland in the previous years. The value of the national currency fell sharply, transactions for foreign currency were suspended, and the market capitalisation of the Icelandic stock exchange fell by more than 90%. As a result of the crisis, the country underwent a severe economic depression: its GDP dropped by 10% between 2007 and 2010. (Statistics Iceland, 2020) Thus, "[t]he crisis was at the same time a banking crisis, a currency crisis (the value of the Icelandic Krona came down by about a half), an economic recession and a crisis of politics and societal trust." (Ólafsson, 2011, p. 4) In the following graphics we can see the increase in governmental debt as well as debt in the private sector.

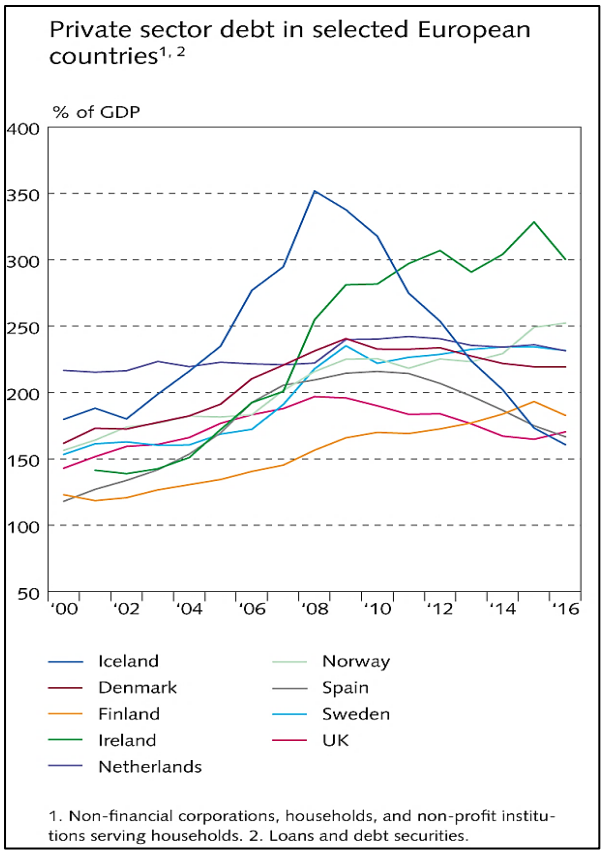

Figure 16: Private Sector Debt
(Seðlabanki Íslands, 2018, p. 29)

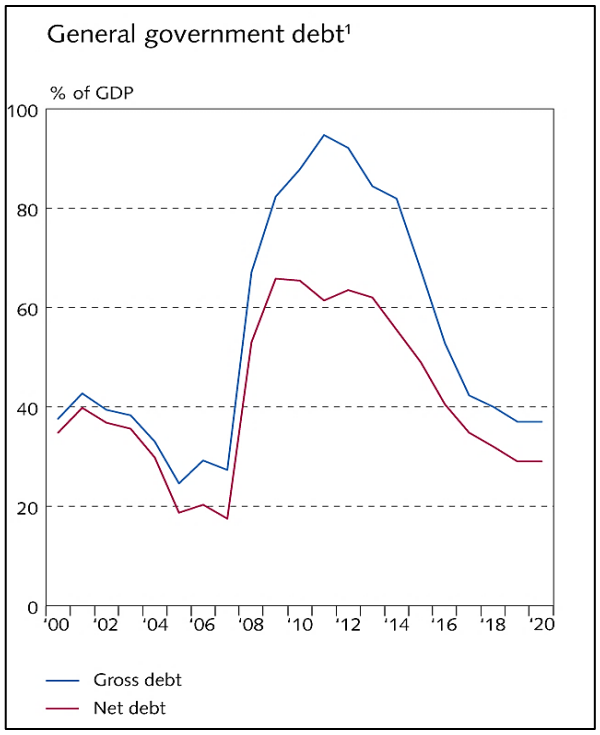

Figure 17: Government Debt
(Seðlabanki Íslands, 2018, p. 56)

The Consequences for the Population

These developments had huge consequences for each and every Icelander. The most visible impact on the public is the drop in living standards as a result of the weakening of the national currency. The drastic fall of the Icelandic Króna (ISK) reduced the purchasing power of wages. (Ólafsson, 2011, p. 9) In addition, Iceland's unemployment rate more than tripled from 2.3% in 2008 to 7.8% in 2010. The number of registered job seekers rose from 2,136 in August to over 7,000 in November 2008. (Statistics Iceland, 2020) Amongst those who kept their jobs, the real wage decreased significantly. But it was not only the higher unemployment rate and the reduction of wages that affected the household sector. Further factors that affected private persons were reduced work volumes, e.g. a reduction of overtime and extra benefits, and a rise in taxes and debt burden. (Ólafsson, 2011, p. 9) "When all of these factors are taken into account along with the real wage cuts, in an assessment of the real disposable earnings of the household sector, the cuts in living standard are indeed significantly higher." (ibid.)

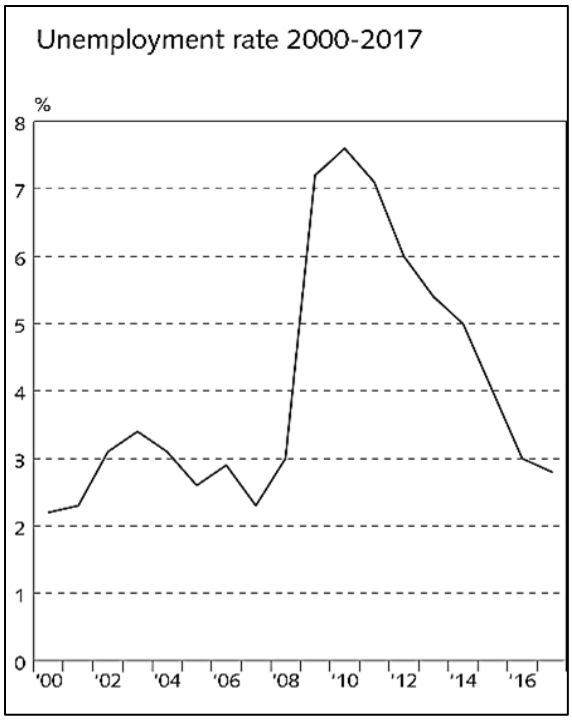

Figure 18: Unemployment Rate (Seðlabanki Íslands, 2018, p. 73)

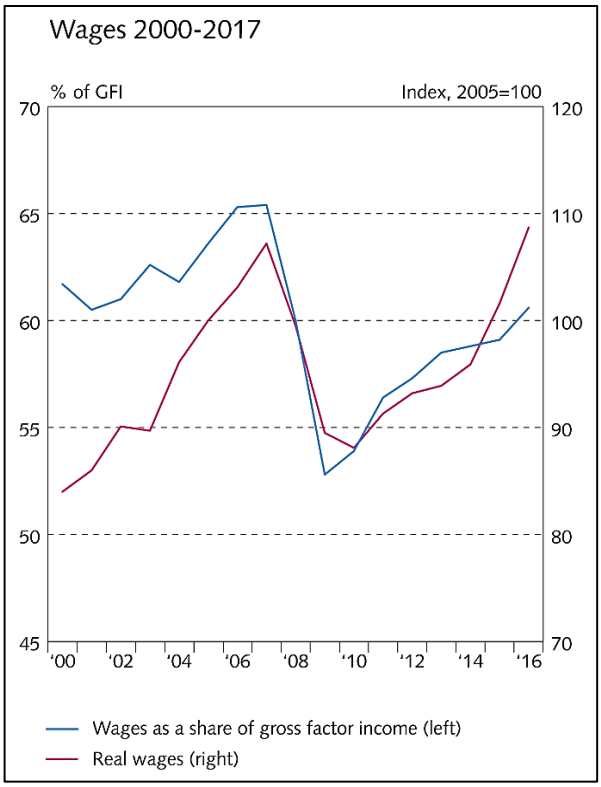

Figure 19: Wages (Seðlabanki Íslands, 2018, p. 73)

This led to the fact that banks stopped servicing the debts of those who no longer purchased durable goods. One example is the purchase of cars: the next figure shows the registrations of new cars in Iceland between 2000 and 2017. During the crisis, new car registrations fell to almost to zero and the number of new car registrations dropped by 94% between November 2007 and November 2008. The situation of other durable goods is similar. Figure 21 however, demonstrates the growth in both GDP and consumer expenditures in Iceland between 2000 and 2016. It is possible to see the fall in consumer expenditure in 2008 and 2009, which was about 20%. (Benediktsdóttir, Eggertsson, & Þórarinsson, 2017, p. 299)

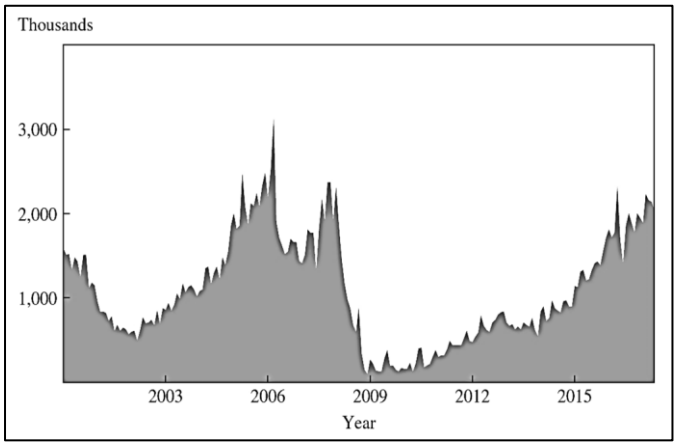

Figure 20: New Car Registrations (Benediktsdóttir, Eggertsson, & Þórarinsson, 2017, p. 300)

All in all, many Icelanders emigrated to Norway or Canada and the nation even considered an EU membership. On 16 July 2009, the Althing voted in favour of accession talks with the EU and the government formally applied for the membership. But the negotiation process was suspended in mid-2013, and two years later, foreign ministers withdrew the application.

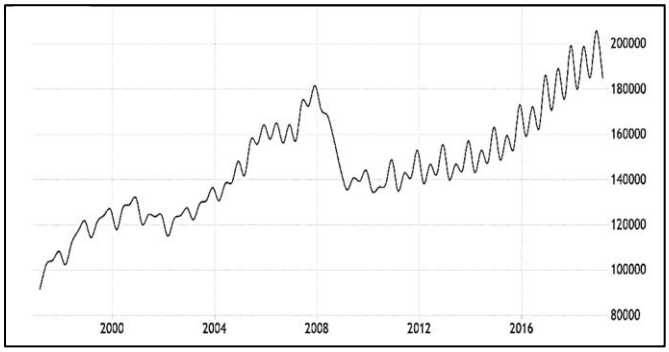

Figure 21: Consumer Spending (Trading Economics, 2019)

We know that both production and population constantly adapt to changes in the environment, which includes natural as well as social changes. These two components of the infrastructure have a reciprocal relationship, which means that when one is growing, the other often grows too. (Elwell, 2013, p. 35) Recalling the figure of Iceland's population development in Chapter 5.2. and how the modernisation of production mechanisms was followed by a growth in population, the same correlation is traceable during the financial crisis, when the population growth in Iceland became negative for the first time. (Statistics Iceland, 2020)

Recent Population Development

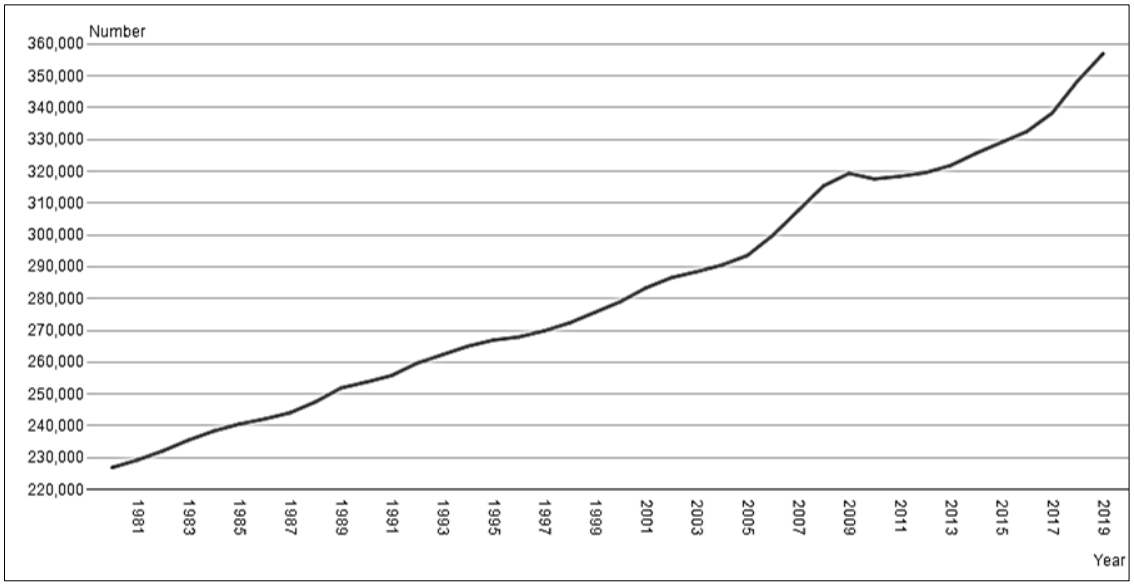

Figure 22: Population Development 1980-2019 (Statistics Iceland, 2020)

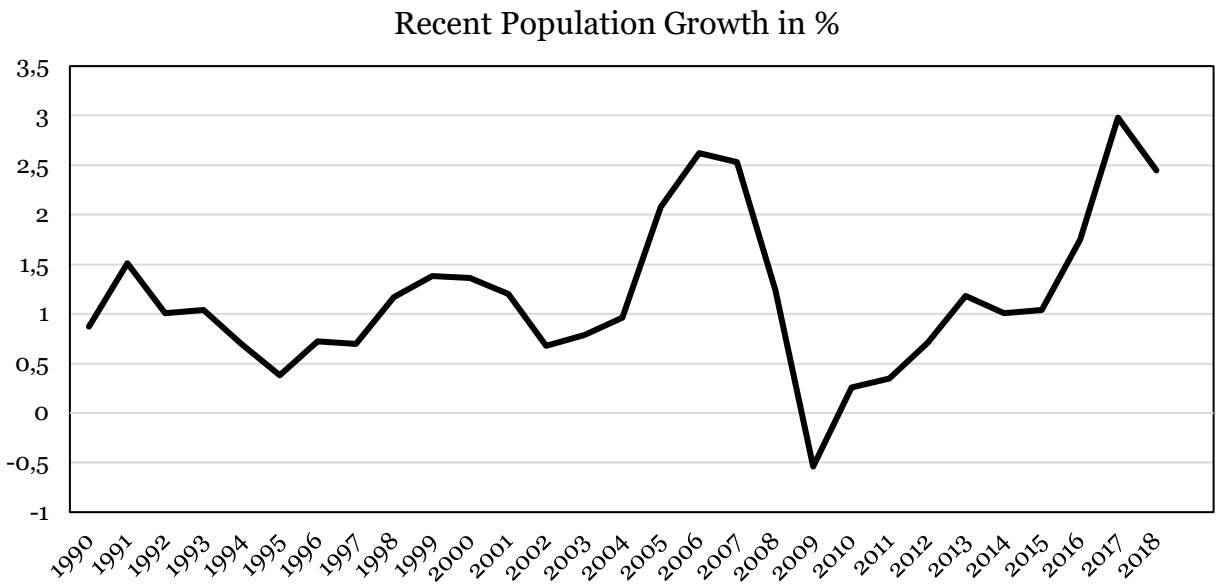

Figure 23: Population Growth in % (based on Statistics Iceland, 2020)

Consequences for Production Mechanisms

"This [the financial crisis] certainly had repercussions for daily life in Iceland, including the diet of most people. […] This may come as no surprise, considering that in the three years after the collapse, the cost-of-living index rose 28%, and the price of imported foods rose 65%. At the same time there was little increase in wages, whereas unemployment soared […]." (Amilien, 2012) From the previous chapters we know that Iceland is not capable of producing the right quantity or diversity of food. Since the change in the modes of production, the Icelandic market has depended on food imports. But with the financial crisis, the import and export rate fell drastically. The rise in prices and unemployment meant that people worked less, earned less, and many regular items became a luxury good overnight.

According to Eric Wolf, "[…] the arrangements of a society become most visible when they are challenged by crisis." (Wolf, 1990, p. 593) In fact, Iceland is dependent on other countries for about 50% of its food supply. This includes not only many essential items but also items essential for national food production, such as animal fodder. Iceland's transition from self-sufficiency to import-reliance reveals the immensely increased dependency on food imports, while their own agricultural sector being significantly weakened. Like many developed countries, "Iceland lost the capacity to feed its population and became vulnerable to fragile trade networks." (Butrico & Kaplan, 2018, p. 718). This became perceptible through two recent situations, resulting in food shortages: the financial crisis in 2008 and the Eyjafjallajökull eruption in 2010. (ibid.)

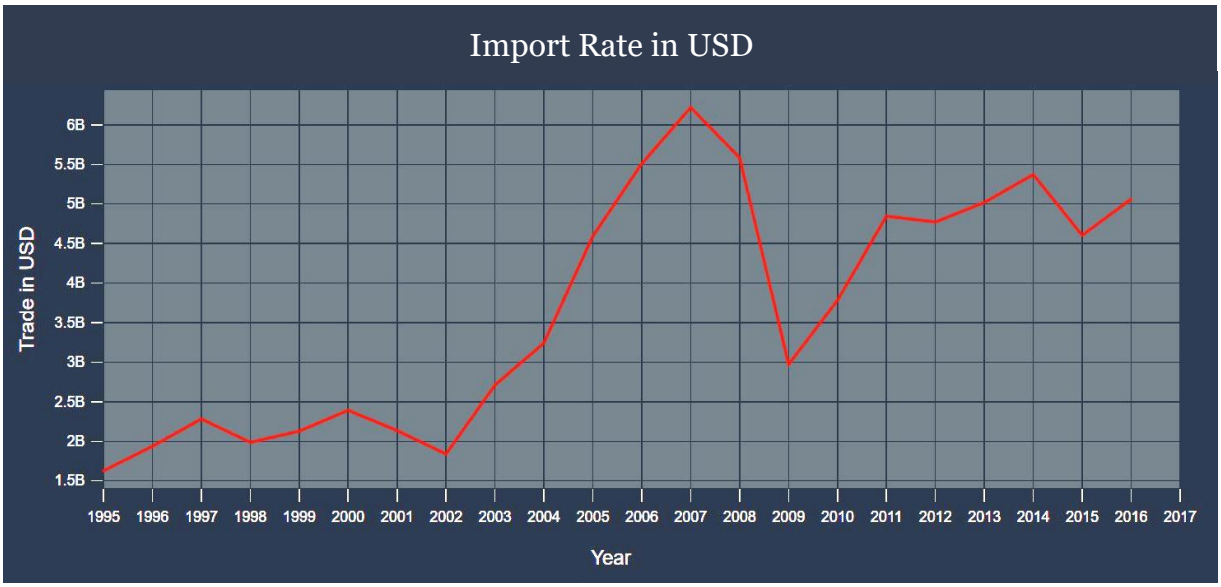

Figure 24: Import Rate in USD (The Observatory of Economic Complexity, 2019)

Because of the uncertain economic situation following the financial crash, food importers were hesitant to do business with the island, and many suppliers stopped their trade entirely for some time. There was a short period of panic, with Icelanders hurriedly purchased food from grocery stores, and warehouse supplies diminished rapidly. Although international trade was restored before food supplies were used up, the scarcity of foodstuffs prompted the Icelandic government to sanction a report with the title Icelandic Risk Assessment Report (IRAR), which aimed to analyse food insecurity in Iceland. The report made very clear that if food imports were discontinued, Iceland would be unable to feed its population. (Butrico & Kaplan, 2018, p. 718).

Another disruption came shortly after the financial crisis, again exposing Iceland's vulnerable food security. The Eyjafjallajökull volcano, located in the South of Iceland, began erupting in March 2010 and continued for over two months. Even though the glacial flooding and lava flows only damaged the immediate surroundings, the atmospheric ash became the most serious problem. The ash pollution was heaviest in the South where the volcano is situated, which is also the region with the most agricultural activities. The ash covered croplands, severely damaging and even destroying yields and livestock, who died due to the poisonous smoke. But it was not only Iceland's internal food infrastructure that was affected by the eruption; it also interrupted food importation as the ash halted air traffic – and not just in Iceland. Imported foodstuffs, which usually arrive by plane, were unable to reach the island, and food shortages were reported. (Butrico & Kaplan, 2018, p. 718) "In conclusion, the pressing issues pertaining to food security today have to do with food systems, encompassing a range of economic and environmental and social features that are undergoing rapid change." (Ericksen, 2008, p. 237)

> "In industrial societies, the influence of environment often appears to be subordinate to the influence exerted by prior modes of production and by demographic, political, and ideological factors. This statement must be carefully distinguished from the often repeated but dangerously incorrect belief that industrial societies have liberated themselves from the influence of the environment or that our species now dominates or controls the environment." (Harris, 1975 [1971], p. 231)

As we can see, even though we now live in a modern and complex society, we are still subject to rapid changes in both the socioeconomic and the natural environment and constantly have to find ways to adapt.

After the processes of the last decades, Iceland's economy relied equally on exports and imports. This became especially perceptible when its financial system collapsed in October 2008. The country experienced a severe economic depression with a cut in the national currency. The increases in taxes and debt burden that followed along with the rise in unemployment, while real wages and work volumes decreased, ultimately resulted in a significant drop in living standard. Import and export rates fell drastically, leading to the risk of food insecurity. This was also noticeable in the population growth, which even became negative for the first time, as modes of production and modes of reproduction are in constant interaction. After the financial crisis, the eruption of the Eyjafjallajökull volcano one and a half years later showed once again how sudden and radical interruptions in the modes of production can take place, including food imports. In the end, „[a]s environments change, organisms must adapt to those changes, a process that can entail a variety of mechanisms." (Sutton & Anderson, 2004, p. 8) Radical changes, either in the infrastructural layer of a social system or in the natural environment, require some sort of quick response. This response in the form of cultural adaptation will be elaborated in the next chapter.

6.2 Cultural Adaptation

"When much else is changing, food habits may change, too […]." (Mintz, 1996, p. 24) Socio-cultural phenomena, including food, reflect a multitude of technological, biological, political-economic and environmental influences. When one of these factors changes drastically, it has immense effects on other parts of a society. Concerning food, this meant that people had to take what they could get – in terms of availability, but also financially. As imports became rare or simply too expensive, Icelanders were left with few alternatives other than to go back to more traditional foodstuffs. The "renaissance of traditional foods in Iceland" is a well-observed and discussed phenomenon from the time during and after the crisis. Icelanders had previously begun to feel, as the Icelandic Times put it, "[…] rather ashamed of their heritage – traditional

foods, the turf house tradition and the old ways that were part and parcel of Iceland culture for 1000 years were suddenly 'out'. New tools, machinery, transportation and fast foods of the mid-20th century began to replace the old but Iceland's mad dash towards modernity finally came crashing down during the financial collapse of 2008." (Icelandic Times, 2018, p. 52)

Adaptation Through Rapid Dietary Changes

The Icelandic food store chain "Samkaup" noticed a huge change with the beginning of the crisis. They did not necessarily sell less, but the categories of food sold changed immensely. The price of every imported item increased when the currency collapsed. For example, the price of a can of pasta sauce rose by 100%. But the prices of local goods either stayed the same or increased by maximum 20% in the case that the product partly involved imported materials. This means that 75% of the supplied foodstuff experienced dramatic price increases, while 25% of the goods were locally produced and therefore did not. (SG, 2018)

What occurred next was that people began to consume more local goods instead of the expensive imported ones. But what is interesting in all this is that people did not buy more cheap products, like frozen pizza or pasta. As Stéfan Gudjónsson, the food store chain's head of trading put it, "the biggest change was that we saw people start cooking again." (SG, 2018) Instead of cheaper ready-made items selling faster, as was initially expected, more of the old, traditionally Icelandic produce were sold, Icelandic lamb for example. Even though this was more expensive than ready-made foodstuffs, it was still cheaper to buy steaks and vegetables in the store than to go to a restaurant. "People were of course decreasing the amount they were paying for the fancy meals, because they were just making them themselves. That was the difference. Paying less by doing it themselves." (SG, 2018) It seems that with the increase in unemployment and the generell decrease in working hours, people suddenly had more time for cooking. "We saw this happening very fast. The collapse was in the beginning of October 2008 and we saw this happening very fast in October, November, December. So [what] we did in January, February, we were starting to back up on the right items, trying to get more local items in the stores, [and] decreased the amount of space we used for frozen pizza." (ibid.)

To illustrate this point, let us stay with the global phenomenon of pizza: Samkaup used to sell between 250,000 and 300,000 units of frozen pizza per year. Instead of sales of this cheap product, they completely collapsed in the financial crisis. In other categories though such as fresh plain pizza dough, for which you need to buy sauce, cheese and other toppings additionally, the increase in sales was huge. It was definitely the more expensive way of making pizza, but it served another purpose. "The people took a few steps backwards and thought to themselves let's make this a family gathering. We don't need to rush into getting the food

ready." (SG, 2018) Before the financial collapse, people would go to a nice restaurant for a family gathering, which then became too expensive. Even though the ready-made pizza was cheaper, making pizza at home with the whole family was nevertheless cheaper than going to an Italian restaurant. And now people had the time to make pizza at home. "Before the collapse of the economic system, we had seen more indication in that direction, where people were rushing to find something that was ready-made." (SG, 2018). While those with the lowest income showed the biggest decrease in their vegetable intake, fast foods were less frequent in all income groups. (Amilien, 2012)

The same trend became visible with Christmas cookies. In Iceland, it had been a tradition for people to come together to bake cookies. But in the years before the collapse, the use of ready-made cookies had become popular, as Icelanders had increasingly less time to bake cookies themselves. After the collapse, these sales just disappeared entirely. Once again, people had more time. (ibid.) As Laufey Steingrímsdóttir from the Faculty of Food Science and Nutrition at the University of Iceland assessed, "[c]onsumption of bread, biscuits, cakes and cookies, margarine, highly processed meat products, chips, sugared soft drinks and whole milk was lower in 2010/11 [after the financial crisis] than in 2002" (Steingrímsdóttir, et al., 2014, p. 664), showing exactly the opposite to the trends of the preceding decades.

Other phenomena involved people starting to grow their own vegetables, going fishing, or knitting their own clothes again. (ibid.) "People became nostalgic and wanted to get back to their roots and traditions." (Anon. Int., 2018) "I felt it myself in my own surroundings that my friends and family were taking a bit of a step backwards." (SG, 2018). The Icelandic Times noted, "[a]s a result of the financial crash in Iceland, many previously imported foodstuffs were abandoned and Icelanders began to take a good hard look at what was in their own backyards: wild plants such as angelica, arctic thyme, Irish moss and dulse began to take on a new importance and enjoyed a newfound place in Icelandic food culture. Icelanders finally found their voice, and their passion for a cuisine centred around indigenous ingredients was born." (Icelandic Times, 2018, p. 52) Producing and using traditional home-made food products were increasingly seen as a "good" and supportable behaviour, which is therefore a small step back to household-based economy, and was also demonstrated in literature and media, especially magazines. This is the mental and behavioural superstructure that accompanies infrastructural alterations.

Thus, with changes in the modes of production (infrastructure), domestic foods which were hunted or gathered from their natural environment for example, have experienced more interest and attention than in the years before. (Amilien, 2012) As one interviewee explained (less than enthusiastically), "after the financial crisis, it felt like we had blood sausages 3 times a day." (Anon. Int., 2018) For others, using the national and traditional products included not

only home-grown potatoes, self-gathered herbs and Icelandic lamb, but also whale. One informant indicated that, right after the financial crisis, it was very common that "people would bring whale steaks to grill parties." (EH, 2018) Looking at the statistics, in the period following the financial crisis an immense increase of hunted whales was observed (see Figure 25).

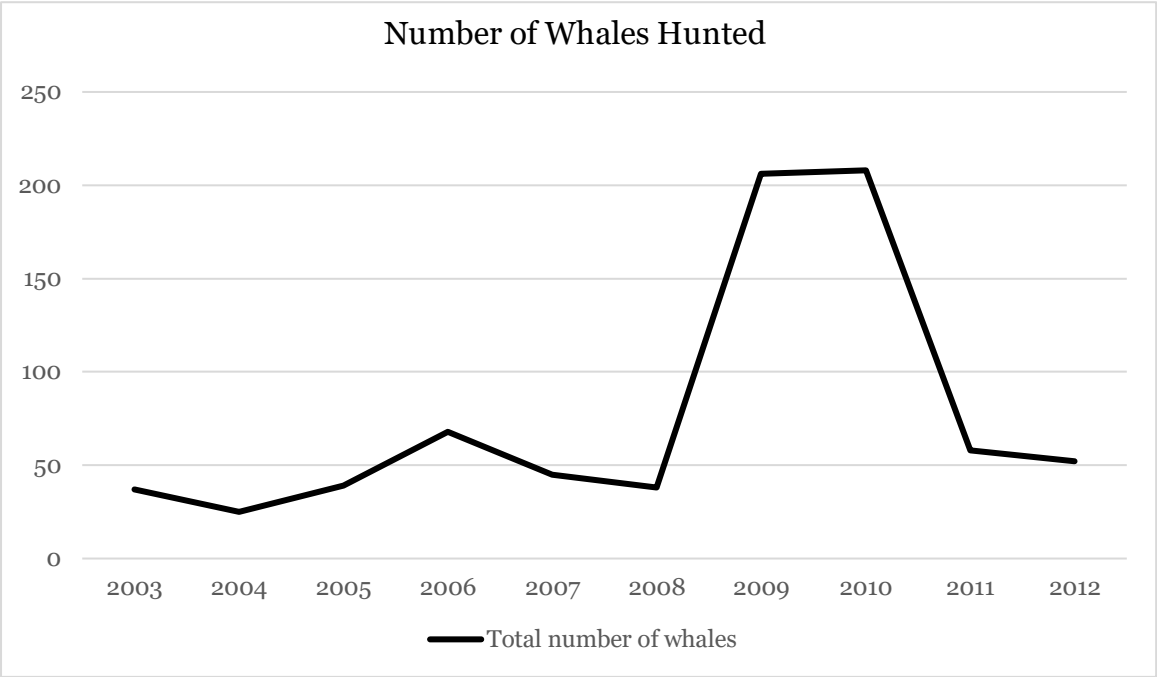

Figure 25: Total Whales Hunted (based on International Whaling Commission, 2019)

Economic Trends after the Collapse

"The food supply statistics even showed a definite turnaround following the collapse, with fruit and vegetable consumption decreasing for the first time in decades." (Amilien, 2012) The substitution of imports, for example the decreased amount of vegetables, requires a sufficient material base (Hannerz, 1992, p. 239), which was not present in Iceland. Therefore, certain adjustments in the modes of production were made. In January 2009, only 3 months after the financial crisis, the Icelandic government took the decision to increase commercial hunting quotas for both minke and fin whales. In March 2010, the new Fisheries Minister set the quotas for 2010 at 200 fin and 200 minke whales, with the right to carry over 20% of the unused quota from the year before. In 2010, 148 fin whales and 60 minke whales were caught. (Rasmussen, 2014, p. 84) In the Icelandic media, it was suggested that whaling would help to rebuild the economy. According to a poll in 2009, over 67% of Icelanders were either "very" or "rather" supportive of commercial whaling, with only 19.7% opposed to it. (ibid. p. 91) The economic reasoning is especially visible when looking at the fin whale, which, in contrast to minke whale, is caught mostly for export. Since the Moratorium in 1989, only 7 fin whales had been hunted.

This changed after the financial crisis, when suddenly 125 fin whales were caught in 2009 and 148 in 2010. (International Whaling Commission, 2019) The owner of the only fin whaling company Hvalur H/F explained: "We used to whale from 1948 till 1989 and then there was a stop for 20 years. And then we started again in 2009 really. […] The whaling commission, they decided a zero quota, and the politics [the Icelandic government] didn't dare to oppose it at that time. So, we were kind of stuck for 20 years." (KL, 2018)

Other infrastructural changes included an increase in the value of fish catch and national livestock, e.g. ewes. As demonstrated in the following graphs, the rate essentially exploded after the financial crisis.

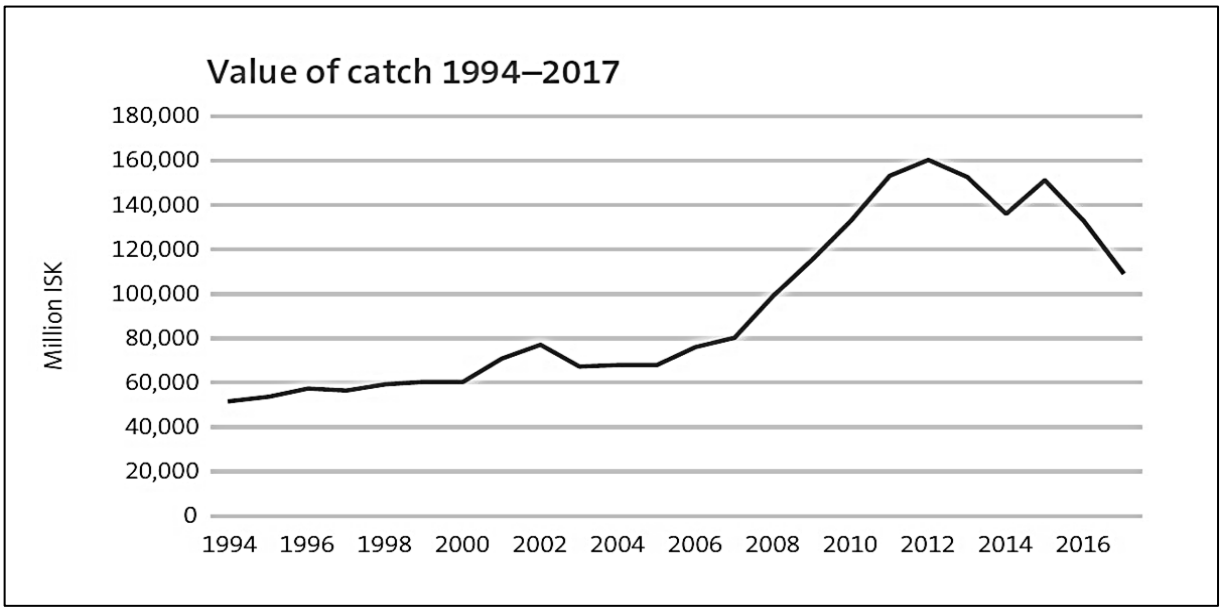

Figure 26: Fish Catch (Statistics Iceland, 2019, p. 24)

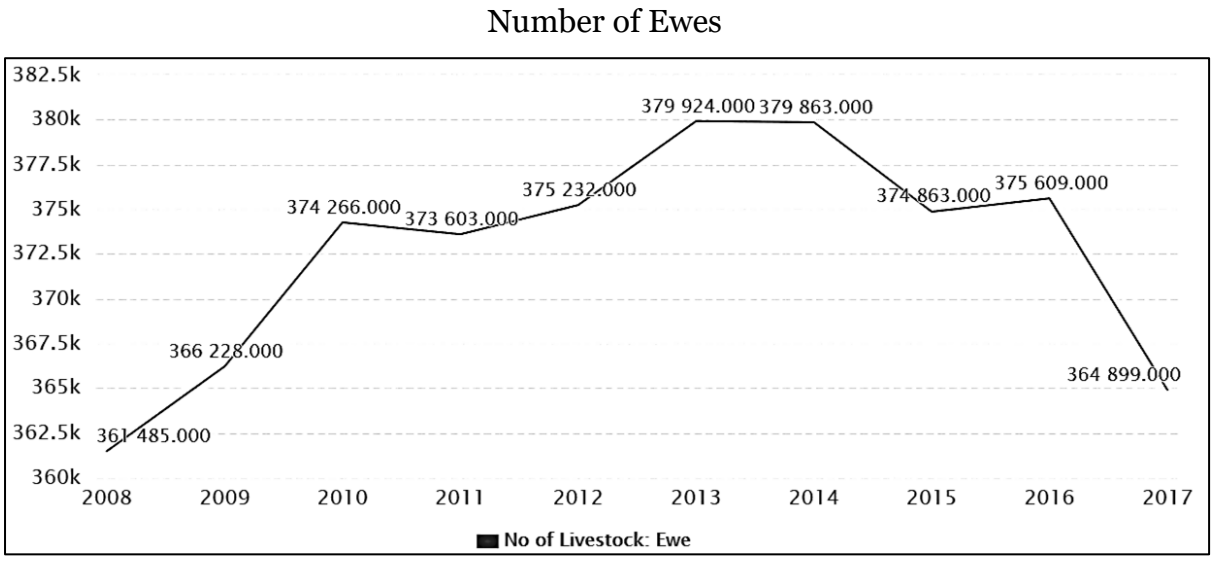

Figure 27: Number of Ewes (CEIC Data, 2020)

There was even an observable increase in the formation of agricultural land (mostly pastures) through the transition from semi-natural marginal land and wetlands to agriculture. (European Environment Agency, 2017, p. 4) Even though the general trend showed a decline in field crops from 2,363,342 m^3 in 2000 to 1,968,018 in 2005, they increased again in 2010 up to 2,165,642. Potatoes, in particular, nearly doubled between 2005 and 2010. (Statistics Iceland, 2019, p. 26)

This shows the trend of the 2000s, where the import rate of food products increased and then suddenly stopped. This accordingly resulted first in a decrease of the production of field crops, and then in a sudden increase after the collapse. Even though people started using more national staples, the shortages of vegetables and fruits which could not be grown in Iceland was felt drastically by the population. But with greenhouses, two thirds of the tomatoes sold in 2013 were produced in Iceland, while Icelandic cucumbers even made up 99% of the market. Other products included bell peppers and cabbages. (Butrico & Kaplan, 2018, pp. 712-713)

In conclusion, people must respond to environmental and infrastructural changes very quickly. This happens culturally, for example through the changing of food habits. In this case, due to changes in the mode of production including fewer exports, fewer imports and less labour, people returned to a more traditional diet based on what was available to them. This not only included the consumption of more national products, including whale meat, but also food preparation methods, e.g. a shift from pre-prepared to home-cooked. Food production further changed when national production increased after the financial crisis, in correspondence with the reduced import rates. A much higher number of whales were caught, and national livestock and agricultural land were increased, while more people started to grow herbs and vegetables for their own consumption. All this can be seen as a small step back to pre-modern times when the economy was based on national, and especially household, production and consumption, and was supported on the one hand through the mental superstructure, indicating that this behaviour is “good”, and further through the behavioural, as this was also conveyed through various forms of media. “While the economic situation in Iceland is improving now to some extent, we have definitely observed the impact of these tumultuous times on people’s eating habits.” (Amilien, 2012)

6.3 The Politics of Whaling

As we have seen, the history of using whales, or more precisely, the story of whaling, has experienced ups and downs. Let us now dig a little deeper into today’s situation, formed by all

the processes Iceland experienced over the last decades, even though "it takes all day to explain it." (KL, 2018)

Of the 15 species of whales existing in Icelandic waters, only two are still hunted, by the only two remaining whaling companies: Hvalur H/F that concentrates on hunting fin whales, largely for export, and IP Útgerð Ltd (Hrefnuveðimenn), which specialises in hunting minke whales for the domestic market. Hvalur H/F was founded after the war in 1948 and hunted sperm and blue whales, whereas they now only catch fin whales on the west and southwest coast. On their shore station in Hvalfjörður, they process the whale and use every part, such as the meat, the bones and the blubber. What is not frozen is cooked and produced into meal and oil. They have 150 employees, mostly seasonal workers during the summer, and have two boats. Kristján Loftsson, the director and son of the founder, took over in 1956. His main market, as he specifies, is Japan. Some of the meat and blubber is sold in Iceland, but about 95% is exported to Japan. (KL, 2018) Hvalur H/F also use whale blubber to fuel their boats – considering it an "eco-friendly alternative". (Vargas, 2018) When hunting fin whales, it is possible to go to the same spot every time, around a hundred miles offshore. In contrast, minke whales are harder to catch, as they are quicker and disappear from the surface. The fin whales then get processed directly on board the ships. "We cut them outside the west and southwest coast, all inside the 200 miles exclusive economic zone and then we bring them back to our landing place […] we process it, take the meat and the blubber, freeze it, then the bones and what is not frozen is cooked and produced into meal and oil, like fish meal and fish oil." (KL, 2018). The other company, IP Útgerð, with its director Gunnar Bergmann Jónsson, is the only company still hunting minke whales in Iceland. Most of the whale meat on sale in Iceland, e.g. frozen steaks, are from this company. (KL, 2018) But these two whaling companies are also working together. IP Dreifing ehf., another company owned by Gunnar Bergmann Jónsson, distributes Kristján Loftsson's fin whale blubber (*súrhvalur*) on the Icelandic market.

Today, only Iceland, Japan, Norway, Greenland, the Faroe Islands and Alaska still engage in whaling, which puts a lot of pressure on the island. The U.S. embassy in Iceland still insists on a whaling ban, even though they themselves engage in indigenous whaling. (KL, 2018) "It's a lot of international politics involved in this." (ibid.) Legally, the EU cannot do anything against whaling. But in the IWC, non-whaling countries can take part and vote against whaling. "They [EU countries] have to vote as the EU tells them, because they [EU countries] are a member of the EU and the Bruxelles gang tells them what to do. So, they are not independent." (KL, 2018) When Iceland left the IWC, they started operating scientific whaling in the same way as Norway or Japan, "[…] claiming the need for research to understand how whale populations 'interact' with 'other components of marine ecosystems, notably commercially important fish species'. The sale of whale meat for commercial markets is a by-product of this science (in much the

same way that some countries pay for fishery stock assessments by chartering fishing boats to do the surveys, and using fish catches to meet the costs of data collection).” (Higham, Bejder, & Williams, 2014, p. 3)

In total, there are two Icelandic institutions for marine biology: the University of Iceland with the Marine Mammal Research Center, funded by the government, and the Icelandic Marine and Freshwater Research Institute (MFRI), funded in half by the government, in half by fisheries and therefore also by whaling companies. The latter provides advice to the Ministry of Fisheries on catch levels and conservation measures. They recommend a quota based on the estimated whale population, which is assessed through their North Atlantic Sighting Surveys (NASS). Iceland resumed scientific whaling in 2003, after the IWC did not lift the whaling ban as they initially declared, and the main objectives of the research were “[…] to collect basic information on the feeding ecology of minke whale in Icelandic waters by analyzing the stomach contents and include research on the energetic, food requirements and seasonal and spatial variations in whale abundance.“ (Rasmussen, 2014, p. 83)

The general opinion is that, in order to assess the population, it is necessary to catch them. According to marine biologist Julie Lasserre, this happens only because this research programme is funded by the whaling industry. Scientific whaling does not allow the sale of meat, but in Iceland this is the main purpose for it. “They are saying that the population is healthy and not endangered, when the rest of the world is saying that they are endangered. And as a biologist I don’t agree.” (JL, 2018) According to the International Union for Conservation of Nature (IUCN) Red List of Threatened Species, the minke whale population is of “least concern”, whereas the fin whale is “vulnerable”, but with the population trend increasing. (International Union for Conservation of Nature, 2019) But according to the institute, the fin whale population in Icelandic waters with 40,000 animals is not endangered. But Lasserre wonders how they come to this number, as the whales are always moving, making it impossible to count them in one territory. For her, it does not make sense to talk about a local population if it is a migratory species, as they should be assessed on the migratory surface, not on only one country. Furthermore, it is indeed possible to assess populations without catching any whales, as it is done with other species in Iceland and even with whales in other territories. (JL, 2018)

Nowadays, there officially exists commercial whaling, with science still included. “For scientific whaling, it was the other way around. Whales were caught for samples, and the meat was afterwards sold.” (TK, 2018) Scientists from the MFRI and other international institutions have been accompanying Hvalur H/F for many years for taking samples and analysing them. At least one or two scientists were always at the station taking samples of every whale which was caught. (KL, 2018)

"In many countries, the hunting of sea mammals is an important political issue." (Pálsson, 2000, p. 1) Or as Loftsson put it, "this is all politics, there is no common sense in this whaling issue. It's all politics." (KL, 2018) The export of whale meat became increasingly difficult not just because of the low demand for it, but also because of trade restrictions. Nevertheless, after the financial crisis, Iceland gained permission to export to Japan. (Järvi, 2016, p. 29) Fin whale meat is sold to Japan for the estimated price of 14 USD per kg, with each animal yielding around 12,000kg of meat. And minke whale is sold domestically for approximately 12 USD per kg, at around 1,800kg of meat per animal. In 2009, 125 fin whales were caught, which would create revenues of over 20 million USD on the international market. (Cunningham, Huijbens, & Wearing, 2012, p. 149) The following year, research on the economic impact of whaling on the country (excluding the sale of whale meat) was carried out by the Institute of Economic Studies at the University of Iceland. The result showed that between 80 and 90 people are employed from an annual catch of 150 minke and 150 fin whales, generating around 10 million USD in total salary. (ibid.) Thus, after the financial crisis, the return to fin whaling seems indeed logical. But apparently in 2009, 3,271 tons of fin whale were processed, with only 501 tons (15%) listed as exported and only 50 tons (1.5%) as having been exported to Japan, who should be the only buyer. What happened to the rest of the meat is unknown. (Cunningham, Huijbens, & Wearing, 2012, p. 149)

All in all, the whaling issue is a difficult topic as it transformed from a national to an international issue, involving different nations, different organisations, different economic bases and even different belief systems. In Iceland, there are two companies left: Hvalur H/F, hunting fin whales, mostly for export, especially Japan after the financial crisis, and IP Útgerð Ltd (Hrefnuveðimenn), hunting minke whales mainly for the domestic market. The common belief is that, for an assessment of the whale population, it is necessary to catch the animals. But an important fact to point out is that the Research Institute in Iceland is half funded by the fisheries, which includes whalers. Therefore, as a by-product of scientific whaling, whale meat is produced. This practice is disputed for its usefulness, as well as the fact that the populations are constantly migrating. In addition, it is not only the political relations involved which are highly untransparent, but also the use and whereabouts of the produced whale meat.

6.4 Consumption of Whale Meat

As well as the etic behavioural components and changes, we also look to the emic mental constructs of individuals, including their perceptions and understandings. Today, eating whale

meat is highly controversial in Iceland – more than ever. If you ask people in Iceland about their opinions on whale meat and whaling, most people say it is not traditional, whereas others, especially people who earn a living from the sea, as well as experts, say the opposite. But what is traditional food in this context?

Even if whale meat was eaten only irregularly, either in the case that it was caught with spears or that a whale beached on the shore – a phenomenon that still happens – whale meat was used over centuries and can be therefore seen as traditional foodstuff. There was always access to stranded whales and their meat, and as Iceland is a very harsh country with few available resources, people appreciated the opportunity. To recall the saying *hvalreki*, a stranded whale was put on the same level as a jackpot. "In Iceland it was always a fight for survival", as one interviewee explained. (TK, 2018) They knew how to use a whale's components, and as we can see in various museums, they did indeed use them when they had the chance. "I don't think it was for special occasions – people ate it when they had it. It was saving a lot of families. And the older Icelanders always ate the meat. How much depends and varied greatly on how much they had access to. […] I think people understand that we survived because of what the sea gave us." (GHS, 2018) "It really helped them out for food. But the quality must have been very bad. Still, they didn't have much to eat. So, it was really good for them if there was a beached whale. It was just like any food." (KL, 2018)

But many people, especially on the anti-whaling side, blame the Norwegians for whaling and whale meat in Iceland. "It wasn't even a traditional Icelandic dish – the Norwegians brought it. It's a Norwegian tradition really." (JL, 2018) But as one historian put it, "Whale meat is traditional. People always ate it. But whaling is different." (AG, 2018). Even if an Icelandic whaling tradition is debatable, eating whales is not. It was especially used by poor people as it was one of the cheapest meats, and still has this meaning for the people. Thus, maybe it was never a common food for all Icelanders but was of regional importance for people at the shore, especially poorer people, whose consumption of whale meat was undeniable. Today, older people especially still have this perception of whale meat. "What actually happened was that my father's generation, they look at the whale and always looked at it as a poor man's food." (SU, 2018) But "in the later years, [like] my son, they didn't experience this whale meat as a poor man's food. In the old days they just cooked it and cooked it so long and it was always kind of a livery taste of it, and people either got used to it or didn't like it." (SU, 2018) As seen here, there is indeed a huge generational difference concerning whaling and whale meat.

The Most Traditional Form of Whale Meat

One form of whale meat whose traditionality nobody denies is *súrhvalur* (sour whale or pickled blubber). "It is a special dish in Iceland for centuries. From stranded whales in the old days." (KL, 2018). As we heard earlier, whale meat was put in fermented whey, a by-product of Icelandic *skýr*, for several months after it was cooked in order to preserve it. It was an easy method for preservation, for which you did not need firewood or salt, which were scarce. This method gave the whale blubber a distinctive sour taste. It's "just a very old Viking style. People were so isolated for so many centuries in Iceland and we kept on doing it but Scandinavia and the Vikings, they stopped doing that – but they had more resources of food, coming from Europe and all over and have normal climates. Just when you go to Denmark, you can grow apples and stuff in the garden, but here it's a little colder, you can't do that, so we have to improvise with what we have here." (SU, 2018)

"It's one of the traditional foods like s*við* [sheep head], but it's not something people have every day." (AG, 2018) Today, this pickled blubber (also known as *rengi*) is still eaten, but usually only for a special holiday called *þorrablót*. This Icelandic winter festival is a pre-Christian rite of sacrifice in February. "The food in question was 'traditional peasant food of the most lavish kind' […]". (Hastrup, 1998, p. 96) The tradition dates back to the earliest history of the island community, as founded in the late Viking Age in the 9th century. As the name indicates, it was originally a feast of sacrifice (*blót*). Judging from the sources, including place names, Thorr was the most popular of the pagan gods in Iceland and the folk etymology of *þorrablót* relates it to a feast celebrating him. But it is more likely to be derived from *þorri*, which is the name of a "month" in the old Icelandic calendar, running roughly from the middle of January to the middle of February. It is a month name of considerable age, dating far back to the prehistory of the Nordic peoples. *þorrablót* is unmistakably connected to the harshest month of the year – with many lives at stake. (Hastrup, 1998, pp. 97-98)

After the modernisation process, Iceland experienced a revitalisation of this traditional feast. Communal eating and drinking became linked to nationalism, and "[t]he idea of *þorrablót* became part and parcel of the romanticizing of the past." (ibid. p. 99) The experience is one of ritualised eating of traditional peasant food of the richest kind, containing *hrútspungar* (rams' testicles), *lundabaggi* (sausage in sheep's intestines), *súrhvalur* (sour whale), *smjör* (butter), s*við* (singed and halved sheep heads, eaten with everything; eyes and brain included), *sviðasulta* (brawn made of sheep head), *bringukollar* (briskets), *hangikjöt* (hung and smoked mutton), *blóðmör* (blood pudding), *lifrarpylsa* (liver sausage), *harðfiskur* (dried fish), *hákarl* (fermented shark), and *rúgbrauð* (rye bread). However, the available products can vary from family to family, depending on their location. *Þorrablót* is celebrated by most within their circle of family and friends – either at a restaurant in the form of a buffet, or at home. For

people that live in the urban area, there are shops offering *þorramatarbakkar*, or "Thorri food packages", with all the common elements in it. (ibid. p. 100)

Even though many people say that whale meat was normal 70 years ago when there was not much food around, but not anymore (Anon. Int., 2018), *þorrablót* is still very popular these days. There are gatherings within Icelandic communities all over the world, even in the Icelandic café in Vienna. And the owner and chef of the traditional Icelandic restaurant „þrír Frakkar" in Reykjavík, Stefán Úlfarsson, even organised a *þorrablót* party in London. But many Icelanders nowadays are not used to the unusual sour taste and eat less of the sour whale. (SU, 2018) Whereas older generations grew up with it, the younger population often don't even eat it at Thorri. For most of them sour whale "[…] tastes special. It is sticky and slimy. You need to grow up with it to like it." (AG, 2018) The Icelandic whaling company Hvalur H/F are the only producers for sour whale in Iceland and sell it to local grocery stores. And as the director Kristján Loftsson put it: "If they wouldn't have it, they would kill me." (KL, 2018) For him, it is the only traditional preparation of whale meat and can be found only in Iceland, nowhere else in the world. (KL, 2018) Apart from the festivity in the winter, you can find *súrhvalur* in stores all year around. On the package it is not indicated what kind of whale it is made from, but as it is produced by Hvalur H/F, it can only be fin whale (*langreyður*) – even though most Icelanders are not aware of this, as usually minke whale meat is used for domestic consumption.

Apart from *þorrablót* parties, the restaurant þrír Frakkar offers traditional food for special occasions, when they prepare up to 15 types of whale meat. For Úlfarsson, his food is traditionally Icelandic, and all the food is of Icelandic origin. His father opened the restaurant 30 years ago and wanted to emphasise on fish and whale meat. Because whale meat used to be the poor man's food and Icelanders used to eat fish all day – both were very cheap and therefore common – Icelanders wouldn't eat whale or fish when they'd go out for dinner. Instead, they wanted steak. In the 1980s, when whaling was banned, they came to an arrangement with Kristján Loftsson, the owner of the whaling company Hvalur H/F. At that time, there were protests in Rotterdam and Loftsson had to bring two containers back to Iceland, where he vacuum-packed and froze the meat. Stefán Úlfarsson's father, the founder of þrír Frakkar, asked if he could buy one container in order to keep whale meat on the menu during the ban. Because of this, þrír Frakkar was the only place in Iceland where you could always get whale meat for as long as for 16 years – "so people won't forget" and tourists could try it. Even though the meat was 16 years old, it apparently was of very good quality. "This is just our way of keeping the taste, keeping the memory of the meat to the people." (SU, 2018) Additionally, all whale meat at this restaurant and the sour whale is from fin whales caught by the company Hvalur H/F.

Thus, the most traditional way of preparing whale is sour whale, which is (today) usually eaten just once a year. Still, there is another way to prepare whale meat that is more common nowadays. The smaller minke whale is used and prepared as steak. But minke whale (*hrefna)* is easy to mess up. "It's difficult to cook it. You have to know how to do that. It's easier to ruin the whale steak." (SG, 2018) This is the one thing all people agreed upon. "And I think the knowledge on how to do this at your home is also getting lost. My father would probably be able to tell me, what to be aware of." (SG, 2018) Most people who eat whale meat prepare minke whale as a steak. There are two different versions of the steak, both frozen and with two filets à 150g, which you can buy in many stores in Reykjavík. After defrosting, you can put it on a grill or a pan, but "if you cook it too long, it's ruined. […] I think sometimes they put the meat into milk to get the bad fat, fish oil taste from it. It's very difficult to get it right." (SG, 2018) Often, it has a strong fish oil flavour. Some people explain that you need to leave the steak overnight and then cut off the first centimetre to get rid of the oil. "Then it can be very delicious." (TK, 2018) Some also put the meat into milk for some time to milden the liver oil taste. (SG, 2018) Chef Stefán Úlfarsson also cuts a few millimetres off his steaks, as it gets darker on the outside due to the contact with oxygen. You then need to cook it medium rare and as long as it is not overcooked, it tastes like beef, or according to Úlfarsson, even more tender than that. In the old days, they just cooked it and still had the livery taste. "Our mothers pounded whale steaks with a meat tenderizer and cooked them in brown sauce with onion and bay leaf. We would usually eat this with potatoes and rhubarb jam." (SU, 2018)

Today, there are different techniques, and according to him, the younger generation prefers a medium-rare steak. Other modern ways of preparing it, usually only done by restaurants like þrír Frakkar, include whale roast, cured whale, smoked whale, pâté or even raw whale sashimi. (ibid.) This means that whale meat is indeed included in a fusion kitchen between Icelandic and international cuisine.

But many Icelanders who did not grow up with whale meat are afraid of preparing whale meat at home, even as a steak, as it is the common opinion that it is difficult to prepare. "This is different from anything else, so if you are not raised in that environment that eating whale is normal, I don't think you start that when you're grown up." (SG, 2018) Icelanders do not eat whale meat regularly, but nearly everyone has already tried it. Older people who grew up with it are more likely to eat it more often. But this also depends on where they are from. People who grew up inland had no access to fresh whale meat, in contrast to those who lived along the coast. (GHS, 2018) It was also more common in the countryside and in small towns than in the capital. (SG, 2018) This was made apparent in Chapter 5.3, when we examined how the current Icelandic diet was formed, as "[v]ariation 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." (Ross, 1987, p. 8). Overall, we can say that, because of the continuously increasing import rates of previous decades, less whale meat was consumed (especially during the years of the ban), but increased in popularity again after the financial crisis.

To conclude upon the role of whale meat, we can say that it is indeed a traditional Icelandic foodstuff. Despite not being consumed on a regular basis and most of the time only when it was beached, it was eaten for centuries with great appreciation, especially by the poorer population. This reputation still prevails. Concerning the current consumption of whale meat, there exists an urban-rural distinction, and also a big generational gap. The older population, especially those on the coast, grew up with fresh and sour whale meat. It was only in more recent times that modern production methods and with them new products became available started to make whale meat obsolete. While it is generally still eaten as pickled blubber during the traditional festivity of *þorrablót*, the younger generations are not accustomed to the unusual sour taste. This is, above all, the result of the whaling ban which led to a halt in whale meat supply, with only one exception in a Reykjavík restaurant. In contrast, young people prefer a more modern way of preparing whale meat, for example in the form of steaks which became popular after the financial crisis. Even fusion kitchens were created, combining traditional whale meat with international flavours and preparation methods.

7 Globalisation and Homogenisation

The ongoing modernisation and globalisation processes of the 20th century are only continuing to intensify, and Iceland is no exception to it. "The total result of the adaptive process is the production of an organized cultural whole, an integrated technology, society, and ideology, which copes with the dual selective influences of nature on the one hand and the impact of outside cultures on the other." (Sahlins & Service, 1970 [1960], p. 48). Let us examine which globalised cultural traits can be observed in Iceland within the last few years.

7.1 The Tourism Boom

After the economic collapse in 2008, many Icelanders started seeing tourism as their way out of the situation. Before, Iceland was one of the world's most expensive countries, but with the crash tourists could travel to the island for about two-thirds the usual cost. (Oslund, 2011, p. 168) In particular, international attention was garnered by the Eyjafjallajökull eruption in 2010. (GHS, 2018) This can be seen in the next figure (Figure 28), when the number of tourists dramatically increased after 2010. In the ten years between 2008 and 2018, this number rose from 470,000 to 2.3 million, with the population at 340,000. (Seðlabanki Íslands, 2019, p. 19) Since 2010, the average yearly growth rate has been 24.3%, while the biggest increase was 39.0% from 2015 to 2016. (Ferðamálastofa, 2018, p. 2)

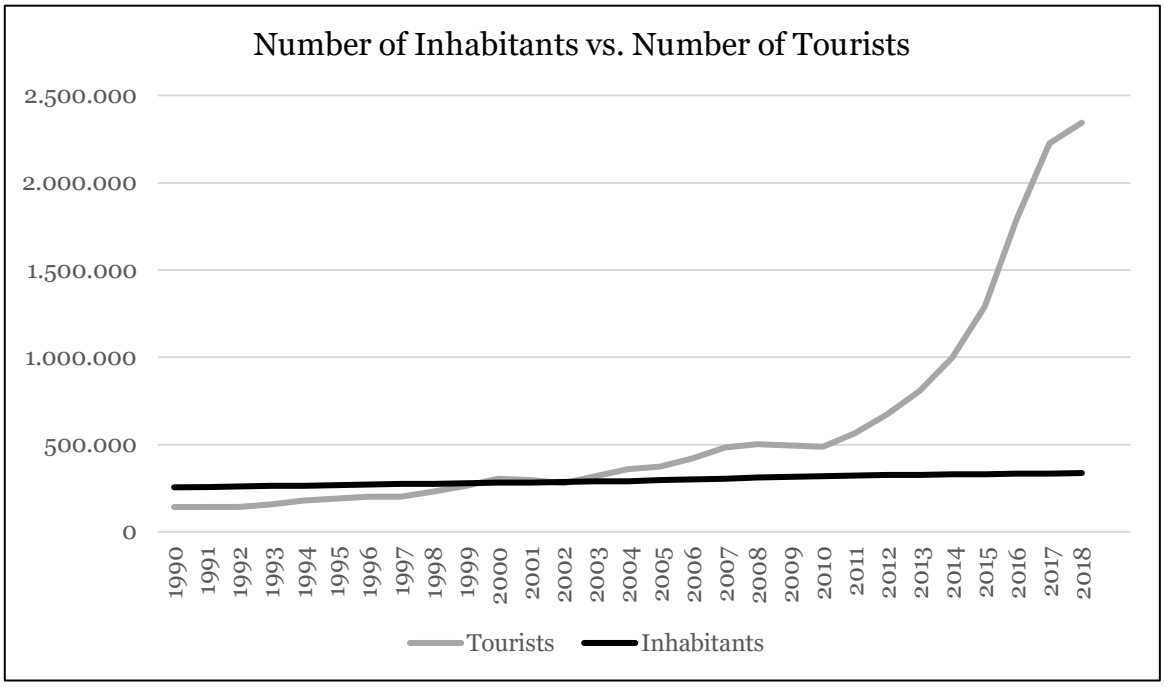

Figure 28: Tourists vs. Inhabitants (based on Statistics Iceland, 2020)

Considering the tourists' individual motivations for coming to Iceland, most respondents mentioned the Icelandic landscape – more precisely, northern lights (45%), unspoiled/untouched nature (44%), beautiful nature (28%), geysers/geothermal areas (26%), uniqueness/different/diversity (24%), landscape/scenery (24%), glaciers (17%), natural baths (13%), waterfalls (13%), and glacier lagoons/icebergs (13%). (Ferðamálastofa, 2018, p. 18) Nature-based tourism has increased in recent years, along with nature conservation and tourism infrastructure. The unique natural environment with its wilderness, consisting of glaciers, rivers, and volcanoes, has become an important economic asset which also needs to be protected. (Seðlabanki Íslands, 2019, p. 22) According to the World Economic Forum's

Travel & Tourism Competitiveness index, Iceland is number 25 out of 141 countries regarding measures taken for the sustainable development of the tourism sector. (OECD, 2017, p. 64)

Let us now take a closer look at the people who choose to travel to Iceland. The respondents of a survey conducted between July 2017 to June 2018, consisting of 52.5% men and 47.5% women, had the average age was 37.3 years. A little more than a third of the respondents were between 25 and 34 years old and a little less than a third between 35 and 54. Approximately a fifth were aged 15 to 24 and older than 55 comprised one tenth. Half indicated that they had an above average income in relation to the income in their home countries, whereas two out of every five had average incomes, and only one in ten had incomes below average. (Ferðamálastofa, 2018, p. 16) In addition, the majority of tourists came from Western countries. (ibid. p.6) The U.S. and the U.K. accounted for the largest number of tourists with a combined 41% of the total in 2017. (Seðlabanki Íslands, 2019, p. 19) Furthermore, more than half the tourists had a university education level. (Ferðamálastofa, 2016, p. 36)

By Nationality

	2015	2016	2017
Canada	46,654	83,144	103,026
China	47,643	66,781	86,003
Denmark	49,225	49,951	53,240
Finland	16,021	19,895	24,068
France	65,822	85,221	100,374
Germany	103,384	132,789	155,813
Italy	23,817	31,573	40,865
Japan	16,547	22,371	22,397
Netherlands	29,546	39,098	49,164
Norway	51,402	51,012	47,958
Poland	27,079	39,613	66,299
Russia	4,877	6,320	11,819
Spain	27,166	39,183	57,971
Sweden	43,096	54,515	56,229
Switzerland	25,935	28,682	30,166
UK	241,024	316,395	322,543
USA	242,805	415,287	576,403
Other	199,895	285,896	390,933
Total	**1,261,938**	**1,767,726**	**2,195,271**

Figure 29: Tourists by Nationality (Ferðamálastofa, 2018, p. 6)

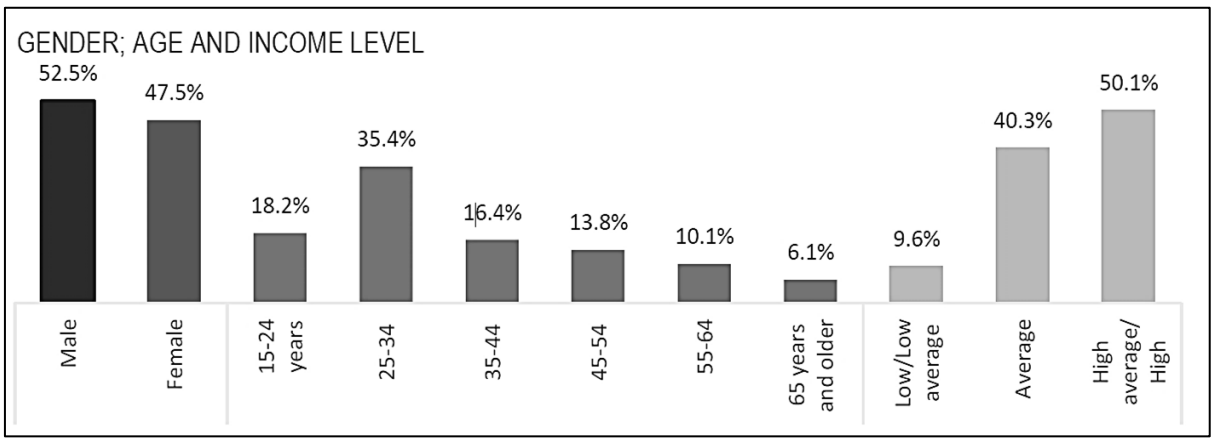

Figure 30: Tourists by Gender, Age, Income (Ferðamálastofa, 2018, p. 16)

This development had a significant impact on the Icelandic economy. "Tourism has grown very rapidly in Iceland in recent years and has established itself as the third main pillar of the Icelandic economy." (Seðlabanki Íslands, 2019, p. 19) In fact, the tourism sector has become a major export earner and is creating new jobs and supporting new businesses. (OECD, 2017, p.

59) Between 2013 and 2017, tourism-generated foreign exchange revenues have grown from 26.4% to 42.0%, according to measurements on the export of goods and services. (Seðlabanki Íslands, 2019, p. 19) Starting in 2013, the tourism sector was responsible for higher foreign exchange earnings than the export of industrial and marine products. (Ferðamálastofa, 2018, p. 2) The following figure illustrates this shift from the marine to the tourism sector. It is possible to see the increase of tourism-related revenues after the financial crisis in 2008, then again after the Eyjafjallajökull eruption in 2010, and once again in 2015, when the energy sector decreased at the same rate as the marine sector, which fell steadily starting in the early 1990s, only becoming more constant after the financial crisis between 2008 and 2014, and later returning to the previous trend. The government budget deficit has also declined from 9.7% of GDP in 2009 and 2010 to 0.2% of GDP in 2014. (Statistics Iceland, 2020)

The Pillars of Iceland's Economy

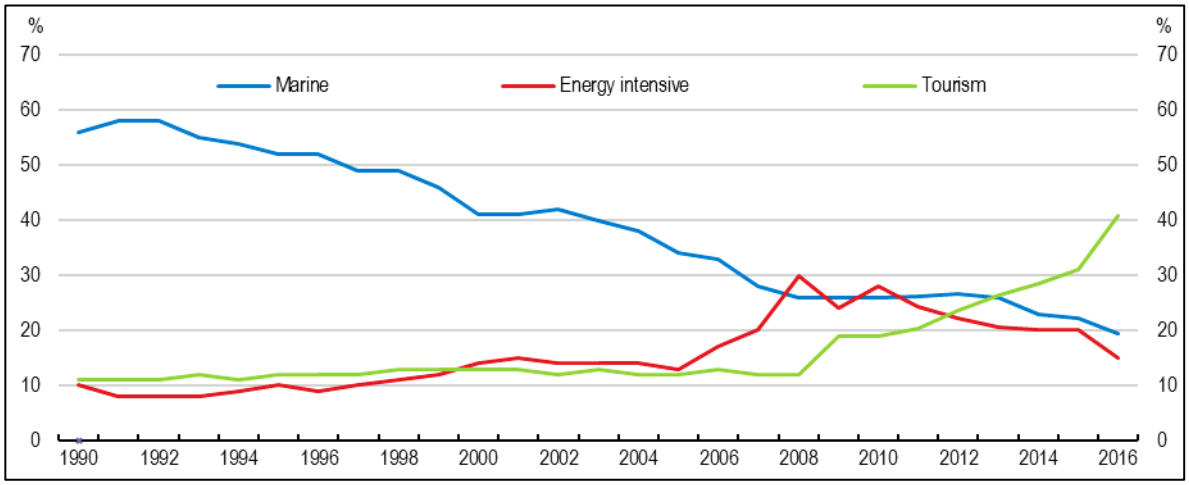

Figure 31: The Three Main Sectors (OECD, 2017, p. 66)

In August 2017, 31,700 people were employed in tourism-related sectors, of which the majority worked in gastronomy and accommodation. This number has shown a yearly increase since 2013 by 68%. (Ferðamálastofa, 2018, p. 4) This employment growth can be observed in the rise of migrants and migrant workers. (OECD, 2017, p. 68). Between 2012 and 2018, Iceland's immigrant population increased by over 50%. On the 1st of January 2019, immigrants at 50,272 people made up 14.1% of the population, an increase from the previous year (12,6%). In general, the entire population grew by about 2.5% between 2018 and 2019. (Statistics Iceland, 2020)

Migration Development

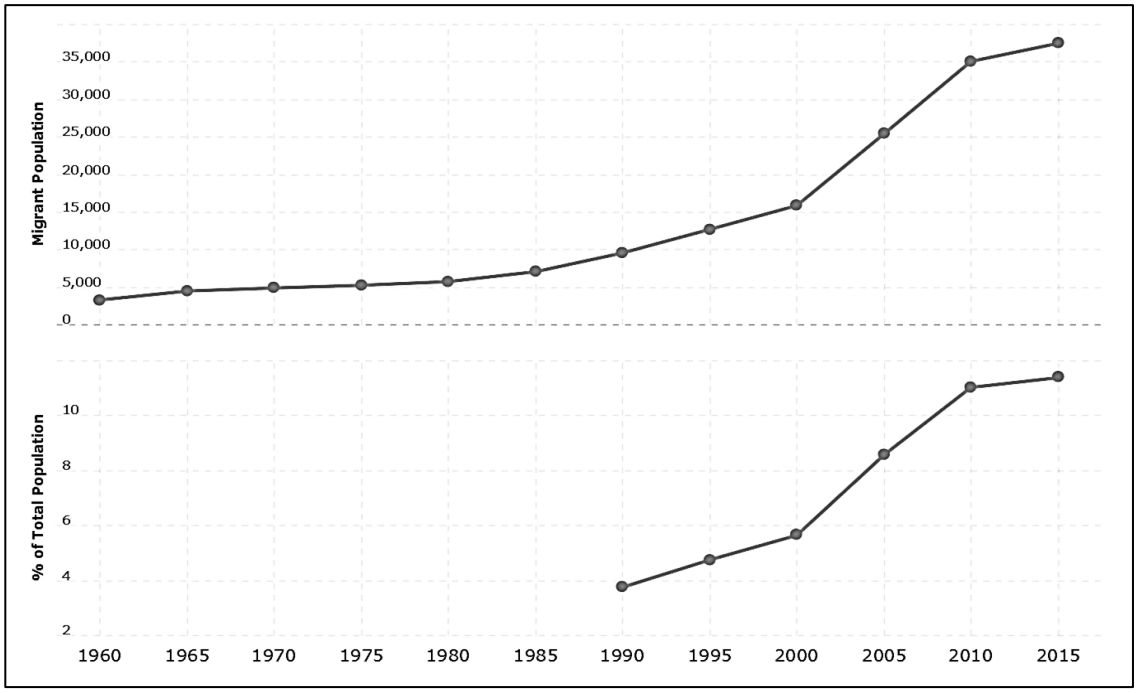

Figure 32: Number of Migrants (Macrotrends, 2020)

Recent Population Development

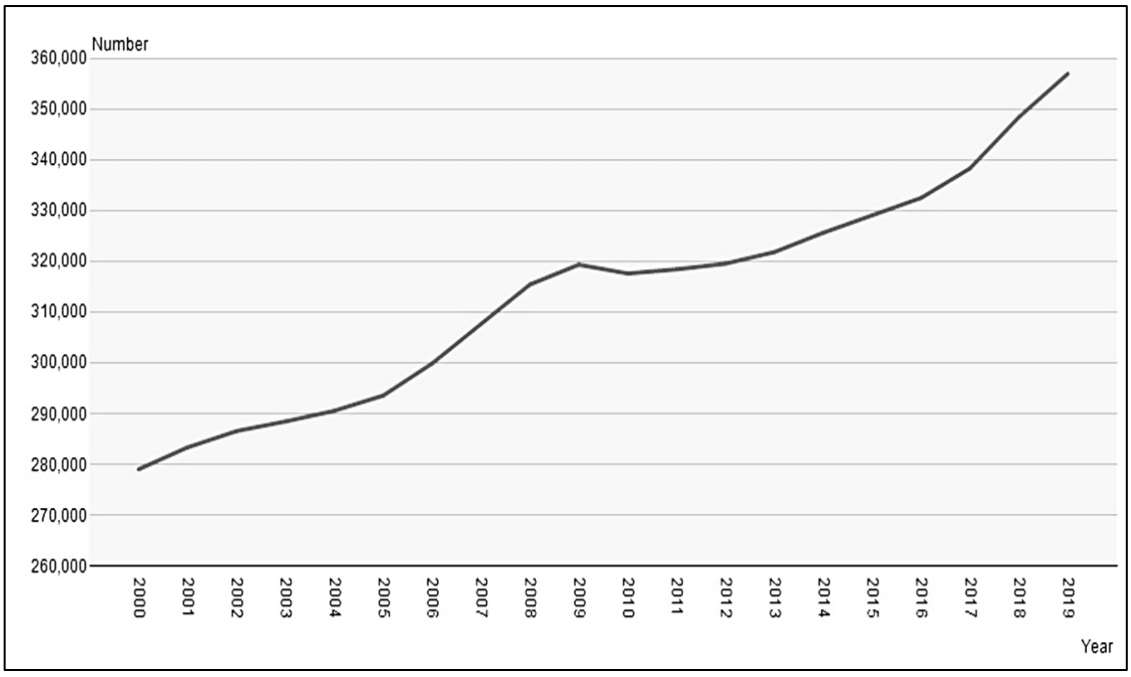

Figure 33: Recent Population Development (Statistics Iceland, 2020)

Population development is one phenomenon, as we have already seen. Infrastructural or economic changes can be followed in the growth of the respective population – first with the modernisation of the 20th century and then with the financial crisis, when the population

increase was negative for the first time. After the recession that followed the financial crisis, and with the help of the tourism boom, we can once again follow a steady population increase.

Overall, we can observe how the quickly growing tourism sector, spurred on by the financial crisis and the eruption of Eyjafjallajökull, helped the nation to overcome the crises so rapidly and even became the biggest sector in Iceland's economy, replacing the export of marine and industrial products. Like the other economic developments, the tourism boom has wide-ranging consequences which include an increase in immigration and in the population in general. Taking a closer look at the tourists themselves, most come from Western countries, are under 34 years old, have a university education level and an above-average income, with their main reason for visiting Iceland being its natural landscape.

7.2 Adjustments in the Function of Whales

Whales, as outlined earlier, serve different kinds of functions. In previous times, they were especially important as an additional food source for the local population before infrastructural changes came into play. In the 19th and early 20th centuries, whales were mostly hunted for their oil, until the modes of production changed again, making whale-hunting economically obsolete for most countries. But in Iceland, it still offered a value for the nation's most vital sector, the fisheries. However, as these started to decline too, only the financial crisis constituted an exception to the downward trend. Today, with the rise of the tourism sector, whales have taken on a totally new economic value as part of a new attraction – whale-watching.

Whale-watching as an Economic Asset

Although the first whale-watching operation took place in 1955, since the implementation of the IWC Moratorium on commercial whaling in 1986 "[...] whale-watching has become perhaps the most economically viable and sustainable use of cetaceans." (Parsons & Rawles, 2003, p. 444) Both the number of participants and the economic value have increased in recent years. (ibid.) The IWC, too, recognises whale-watching as a legitimate tourism industry, providing a sustainable use of whales and an economically viable alternative to whaling. (Higham, Bejder, & Williams, 2014, p. 2)

In Iceland, whale-watching did not start until 1991. The numbers of tourists joining these operations has increased ever since and today, many different boats and companies conduct

commercial whale-watching operations in the seas around Iceland. (Rasmussen, 2014, p. 85) Whale-watching has provided remarkable growth and huge benefits for Iceland on a socioeconomic level. It has become especially profitable through the tourism boom: Between 2012 and 2016, the number of participants grew from 25,000 to 44,000, which is 15 to 34% every year. The annual increase is even larger than the total number of people who participated in whale-watching in 2000. (Samtök Ferðaþjónustunnar, 2016) "Such figures point to a rapidly changing socio-political and economic context, both globally and regionally, as communities and nations recognize and seek to pursue the economic benefits of whale-watching." (Higham, Bejder, & Williams, 2014, p. 2)

Nowadays, like tourism, "[…] whale-watching is a very important industry for the Icelandic economy." (Rasmussen, 2014, p. 81) The significance of whale-watching for the tourism sector and thus the national GDP has been observed by the leading tourism body, the Icelandic Tourism Industry Association, which has claimed that "[w]hale-watching has become one of the most popular tourist activities in Iceland, providing considerable income for the economy, as well as creating a very positive image for Iceland". (Parsons & Rawles, 2003, p. 445) This new economic focus on tourism including whale-watching raises concerns about the possible damage of whale-hunting to this flourishing (and particularly profitable) industry. (Oslund, 2011, p. 168)

Whale-Hunting as an Economic Threat

The coasts surrounding Iceland host a variety of whale species. Species including humpback whales, minke whales, blue whales, killer whales, white-beaked dolphins and harbour porpoises are the target of whale-watching operations. (ibid.) As we know, it is not only the whale-watching operations that are utilising the abundance of whales along this coast. Iceland is one of the few places in the world where both whale-hunters and whale-watchers search for the same species (minke whale) in the same area. This inevitably leads to conflict and debate on a national and an international scale. (Andersson, Gothall, & Wende, 2014, p. 108)

Interference by whaling companies is affecting the whale-watching tour operators. On occasions, whaling has been carried out in front of whale-watching boats. This is causing whales, especially the hunted ones, to avoid boats in general, including those of whale-watchers. An altered behaviour of the whales has been observed, decreasing the numbers of whales spotted. Tour operators must now travel longer distances to find whales, which demands more time and raises operational costs. (ibid. p. 102) Even though the number of tourists participating in whale-watching overall has grown considerably, there has been a noticeable change following the resumption of whaling when whale-watching as a tourism

activity grew less relative to other tourism activities. (ibid. p. 108) Whaling activities are responsible for the reduced capacity of the whale-watching system on a global scale, but above all in countries that continue to engage in whale-hunting. Nevertheless, the intention of pro-whaling parties is to prove that whale-hunting and whale-watching can coexist. (Higham, Bejder, & Williams, 2014, p. 3) However, delegates from 11 countries issued a joint statement declaring that whaling is indeed threatening whale-watching and ecotourism in general. (Rasmussen, 2014, p. 85)

Environmental considerations are growing internationally, placing nature and its protection at the top of the agenda. (Andersson, Gothall, & Wende, 2014, p. 104) According to the Iceland Tourist Industry Association, the consequences of whaling for Icelandic tourism could be devastating, as tourism in Iceland has been increasingly directed at tourists seeking wilderness and living nature including whale-watching, as previously discussed. (Parsons & Rawles, 2003, p. 447) Several studies have indicated that tourists who want to interact with whales hold strong pro-environmental values, which influence their decision-making and behaviour regarding tourism activities. (Higham, Bejder, & Williams, 2014, p. 9) Whereas 79% of the questioned whale-watchers in Iceland said they would boycott a country that is whaling, 12.4% indicated that they would visit such a country, but they would not go on a whale-watching trip. This means that a total sum of 91.4% of whale-watchers would not partake in any whale-watching activities in a country that hunted whales. (Parsons & Rawles, 2003, p. 444)

The Icelandic Travel Industry Association is especially concerned about the reputational damage that may threaten the whale-watching business, and even tourism as a whole. When commercial whaling was reintroduced, Iceland was in the international media once again, with various journals like the New York Times publishing articles about how the return to whaling would hurt Iceland's tourism. According to the director of the Icleandic whale-watching company "Elding", some tourists immediately cancelled their tours and some travel agencies announced that they would remove Iceland from their list if they pursued whaling. (Rasmussen, 2014, pp. 89-91) A U.K. tour operator claimed that there was a 25% drop in bookings for whale-watching trips, implying that "[…] whaling is an important issue for the total Icelandic tourism industry and that the resumption of whaling is problematic." (Andersson, Gothall, & Wende, 2014, p. 105) A group of 26 countries put diplomatic pressure on Iceland to abandon whaling. The joint diplomatic protest, signed by countries including the U.S., Australia, the U.K., Germany, France and Spain, expressed their deep disappointment with the government's decision to authorise commercial whaling. (Rasmussen, 2014, p. 91)

For many, it is problematic that Iceland seeks to attract tourists with whale-watching as one of its major attractions at the same time as it is actively hunting whales for commercial purposes. "If commercial whaling continues, it will not only have a negative impact on the destination

image of Iceland, but it might also have serious consequences for the whale-watching tourism industry." (Andersson, Gothall, & Wende, 2014, p. 197) Several interviewees agreed with this point of view and claimed that the economic impact of whales is significant only in regard to tourism and not whaling. And people only visit if the nation's image is good. (TK, 2018) "Tourism is so important in Iceland – they have to make a good decision also for the tourism. Whale watching industry is way more efficient than the whaling industry." (JL, 2018) The director of the whaling company Hvalur H/F A holds a different opinion, arguing that, although people do come to Iceland to see whales, whaling has been carried out during the majority of that time and obviously has no effect on Icelandic tourism. (KL, 2018) And as the owner of the traditional Icelandic restaurant claimed, "[…] fin whale hunting does not affect anything about the whale-watchers. Because they will never go whale-watching fin whales, hundred miles out of Iceland. Just to see some. They will take many hours just to go there and usually get sea-sick." (SU, 2018) This is true, as fin whaling is carried out further offshore, but it is not true in regard to minke whaling, which happens on the same spot as whale-watching.

Tourists and their Role in Whale Meat Consumption

Another point which requires elaboration is the fact that whale meat is also consumed by tourists. As the whaling director stated, tourists like to try whale meat, as "they don't have the chance at home". (KL, 2018) According to a survey from 2014, for Icelanders whale meat has the role of a specialty food, whereas to tourists it is promoted as a novelty food. But 65% of the questioned tourists stated that they would never even try it. Out of the 20% of the respondents who had tried it, 69.1% indicated that curiosity was the reason. (Järvi, 2016, pp. 29-30) "We are not just hunting the whale for the tourists, but of course if there is a demand, we should supply the demand. And we get lots of people from the whale-watching that want to try the whale." (SU, 2018) It is estimated that 80% of produced whale meat is exported to Japan, 10% is sold in Iceland, mainly for tourists, and 10% for pet food. (JL, 2018 / KL, 2018)

Some believe, "they eat it because of false information. They think it is a traditional food and that everyone here eats it." (Anon. Int., 2018) As previously elaborated, many Icelanders believe that eating whale meat was introduced by Norwegians in the beginning of the last century and is not traditionally Icelandic. "Today, Icelanders [are] probably not eating the whale meat themselves, it's mainly tourists that eat it nowadays." (GHS, 2018) Even though many restaurants promote whale meat as a traditional Icelandic dish to sell to tourists, other restaurants have created stickers to demonstrate that they do not offer any whale meat. NGOs have started to increase their focus on tourists and information to deter them from consuming whale meat. In an effort to reposition the understanding of tourists, IFAW and the Icelandic Whale Watching Association "IceWhale" initiated a campaign called "Meet Us, Don't Eat Us".

This campaign aims to encourage foreign visitors in Iceland to go whale-watching instead of eating whales. Over 60 restaurants in Reykjavík have already pledged to be "whale-friendly", and the tourist demand for whale meat is decreasing constantly: from 40% in 2009, to 20% in 2012, 18% in 2015 and even 12% in 2016. But even though the tourist demand is rapidly decreasing, we should not forget that the number of tourists has been increasing massively. Thus, with 1.7 million tourists in 2016, 12% would be 204,000 tourists trying whale per year, which is approximately 2/3 of Iceland's population. However, most of the tourists eat it only once and not even a full portion. (Vargas, 2018)

Today, probably less than 10% of Iceland's tourists try whale meat – this means that the remaining 90% choose not to consume the meat for reasons which are mainly ethically driven. We elaborated in the previous chapter that most tourists in Iceland are under 34 years old, have a high degree of education and a high income, and come from Western countries, especially the U.S. and the U.K. – countries that vehemently oppose whaling. To obtain information about Iceland, the vast majority browses the internet, including social media. It is therefore important to note that the way in which Iceland represents itself, especially in regard to nature, affects people's willingness to pay a visit. This seems especially true as the number one reason for visiting Iceland is its nature. International reputation is crucial for a nation that lives from international visitors.

In 2016, a petition which was signed by over 100,000 tourists and locals urged the Icelandic government to stop whaling on the one hand, and to start supporting whale-watching on the other. (Vargas, 2018) After all, whale-watching is currently more profitable and thus more valuable than selling whale meat or whaling in general. (Corkeron, 2014, p. 52) In August 2010, the minke whaling company IP Dreifing (Hrefnuveðimenn) had an idea how they could also profit from the tourism and whale-watching boom and started a business called "whale-watching with whale-hunters". As well as watching whales, this tour would have included the possibility to shoot with a harpoon and try various parts of whale meat. However, they were not granted permission and the tours never started. (Rasmussen, 2014, p. 91)

The Profitability of Whale-use

NGOs, viewing the two uses of whales as incompatible, started promoting whale-watching in the hope that it would substitute whaling. "The potential exists for whaling to impose an external cost on a country's economy, particularly on ecotourism activities such as whale-watching, that are closely linked to marine mammals." (Herrera & Hoagland, 2006, p. 264) Director of the "Húsavík Whale Centre" and chairman of the "Icelandic Whale-watching Association", Ásbjörn Björgvinsson, claims that "[i]f whaling is resumed, it could devastate

whale watching in Iceland." (Herrera & Hoagland, 2006, p. 264) Eco- and sustainable tourism has become a rapidly growing market segment, rooted in and utilising nature, and whale-watching is often viewed as part of this. (Cunningham, Huijbens, & Wearing, 2012, p. 143) Whale-watching in this context is understood as a fast-growing activity that "[...] holds potential for local regeneration, promotes conservation and sustainable practice and is ecological and profitable." (ibid.) Participation in whale-watching on a global scale increased from 9 million tourists in 2001 to 13 million in 2008, with revenues rising from 1 billion USD to 2.1 billion per year. In comparison, whaling is reliant on state and private subsidies. (ibid.) In Iceland in 2017, it only brought 1.7 billion ISK in revenue, while whale-watching created a total of 3.2 billion ISK. (Hagfræðistofnun Háskóla Íslands, 2018) As stated by the Iceland Tourist Industry Association, "[w]hale-watching is currently the golden egg of the Icelandic economy. Care must therefore be taken by the Icelandic government not to kill the goose that laid it." (Parsons & Rawles, 2003, p. 447)

Another point to consider in this cost-benefit calculation is the international opinion on whaling, not only in regard to tourism. The moral conception that whale meat and whaling itself is morally wrong, together with the unprofitability of industrial whaling, could cause further backlash to Iceland's industry. Countries that are dependent on ecotourism or trade relations, such as modern-day Iceland, are especially vulnerable to boycotts or sanctions. (Cunningham, Huijbens, & Wearing, 2012, p. 156) NGOs can and have organised boycotts that affect other unrelated industries. (Herrera & Hoagland, 2006, p. 267) For example, Greenpeace was active in other European countries in trying to prevent people from holidaying in Iceland due to its whaling activities. (TK, 2018) In addition, demand in other industries can be affected by trade sanctions from other states. "Both boycotts and sanctions effectively reduce demand either directly in the case of a boycott or import quotas, or indirectly via the imposition of an import tariff." (Herrera & Hoagland, 2006, p. 267)

In fact, the U.S. Secretary of Commerce has the right to certify other nations for "engaging in trade or taking" that "diminishes the effectiveness" of the IWC to the U.S. President, who then can direct the Secretary of Treasury to prohibit the importation of a nation's products. The so-called "Pelly Amendment" has been used several times in the last 30 years to discourage commercial whaling. Even though none of the certifications have led to trade sanctions, the threat alone has resulted in changes in several cases. (ibid. p. 264) Recalling the difficulties that the Icelandic economy experienced as a result of boycotts of big companies like "Wendy's", which stopped buying Icelandic fish in 1989, such threats can be quite effective. (Ellis, 1993, p. 418) Further measures included an organised boycott of Icelandic fish in Europe and the U.S. and public demonstrations proclaiming that Icelanders were cruel and barbarous butchers, and the broadcast of a documentary, which portrayed pro-whalers as devious and greedy. (ibid.

p. 35) As we recall, the media is part of the etic superstructure of a social system and is used to support and even enhance its own system. Broadcasting images are a key factor in such societal developments and are loaded not only with images but also values, norms and beliefs. The role of the media and other elements that belong to the etic behavioural superstructure will be further explained and illustrated in Chapter 8.1.

Whales as an Environmental Matter

"The changes from an old whaling nation to a whale-watching nation also reflect general changes in society from being a country mainly dependent on the fishing industry to being a country where tourism is a very important industry." (Rasmussen, 2014, p. 81) The transition from whale-hunting to whale-watching seems logical for many – not only in consideration of economic factors, but also in terms of sustainable utility and marine conservation. (Higham, Bejder, & Williams, 2014, p. 2) Along with the economic benefits of whales, ecological factors are becoming increasingly important. "Great whales can exert major trophic influences on marine ecosystems and also act as ecosystem engineers, influencing material fluxes and species diversity and causing physical changes to the ocean environment." (Roman, et al., 2014, p. 3) These functions will become increasingly relevant, not only to ocean restoration and management, but also to fight climate change.

First of all, whale excrement is full of key nutrients (iron and nitrogen) that fertilise the sea from high to low latitude, and stimulate the growth of phytoplankton, which absorb carbon from the atmosphere and carry it deep into the ocean when they die. Furthermore, whales feed on animal plankton, which in turn feeds fish and other animals, including whales themselves. Thus, when whales migrate, they redistribute nutrients around the globe. "This 'whale pump' likely plays a role in enhancing productivity in biological hotspots (i.e. regions of high primary productivity that are associated with rich and diverse upper trophic levels)." (Roman, et al., 2014, p. 5) In addition, whales themselves store carbon in their bodies and prevent it from re-entering the atmosphere. When they die, the carcasses sink and the carbon stays in the deep sea, where they provide habitats and food for endemic invertebrates. This is part of a concept called "blue carbon", which is concerned with the way in which the carbon cycle functions in oceans and the role that whales play in this process.

But "when you hunt them – first you are breaking the pump, but you are also taking this huge amount of carbon out to the surface and then you are going to process it, so you are going to release the carbon and CO_2 again", according to marine biologist Julie Lasserre (JL, 2018). This is a huge impact that these gigantic animals have. "The continued recovery of great whales may help to buffer marine ecosystems from destabilizing stresses and could lead to higher rates

of productivity in locations where whales aggregate to feed and give birth." (Roman, et al., 2014, p. 2) Thus, whales can enhance primary productivity, biodiversity and evolutionary potential, and regulate the climate.

This new scientific insight – that whales can act as ecosystem engineers, naturally helping to enhance the absorption of atmospheric carbon in surface waters – shows another value of (living) whales. This aspect was promoted by the IWC in 2016 in order to encourage governments to integrate the ecological value of whales and dolphins into local, regional and global decision-making on the environment, including climate change and conservation policies. As Julie Lasserre puts it, "if the oceans die, we die. They are providing oxygen. They are absorbing CO_2. They are providing life." (JL, 2018) According to her, "whales are the most important climate engineers that we have right now. I mean if they die, we're screwed up." (ibid.)

Ecological factors have always been of crucial importance in this equilibrium of cost and benefit. As the natural environment is the ultimate base of any social system, changes in it can lead to drastic consequences for human beings and social systems likewise. In response to such changes (one of which is climate change), rapid cultural adaptation is the only way to perpetuate human and social life. In this process, both human behaviours and thinking change. And considering all these aspects, "[…] whale watching is well positioned to provide an alternative to whaling – one which is environmentally and economically viable and falls within internationally accepted practices of environmental sustainability." (Cunningham, Huijbens, & Wearing, 2012, p. 156)

On the one hand, with an increase in whaling comes an increase in commercial fishing rents, which is one of the most traditional economic activities and still one of the main economic pillars in Iceland. Then there are tourists who visit Iceland and are willing to try whale meat. However, it is important to note that both factors are in fact decreasing. On the other hand, there is the rising demand of ecotourism, which is Iceland's most important resource nowadays and could be reset through international reputation and concern. And there is the more profitable whale-watching industry, which is suffering under the effect of whaling activities, as well as the possibilities of further boycotts or sanctions which could be devastating for Iceland's economy – not to mention the important value that whales contain concerning the adaptation to ecological changes such as climate change. As we can see, the development of social systems is a complex undertaking, involving many different factors, such as ecological, socioeconomic and even ideational aspects, and they become even more complex when different nations become part of this equilibrium of cost and benefit.

7.3 Cost-benefit Optimisation of Dietary Patterns

As Ericksen (2008, p. 235) specified, "[g]lobal environmental and socio-economic changes are happening simultaneously, and they involve rapid and complex processes […]". Not only does the environment determine social systems, including food systems, such systems also have an impact on the environment, "[…] as the activities and outcomes are also drivers of global environmental change and create feedback loops." (ibid.) This is visible in the global and local phenomenon of climate change, as it is a consequence of human production mechanisms. This rapid and ongoing change in the natural environment on a global scale has further consequences for social systems. And as is always the case with changes, especially those at the very base, rapid cultural adaptation must take place in response. For this to take place, forms of mechanisms of subsistence or economy need to adjust first, followed by the structure and, finally, the superstructure. If a society's survival is at stake, all parts of that society must deal with the situation, carrying out the right adjustments at the right time. "That response, or adaptation, is an ongoing process because environmental conditions are always dynamic." (Sutton & Anderson, 2004, p. 9)

Global Food Production

With the modernisation and industrialisation of production mechanisms, the population grew intensively – not just in Iceland, but on a global scale. On top of population growth, changing socio-demographics increase the pressure on the world's resources in order to provide larger quantities and different types of food. "It will necessitate more sustainable production of existing sources of protein as well as alternative sources for human consumption." (Henchion, Hayes, Mullen, Fenelon, & Tiwari, 2017, p. 1) It is not only the amount of food that changes, but also the type of foods that are demanded, along with their contribution to diets. Demand for protein is of particular interest, because it is predicted to double by 2050. Other changes such as increased incomes, urbanisation and aging populations, will result in changes in consumption patterns, too. (ibid. p. 2) „There are many strategies available to respond to growing global protein demand which span technological advancements, changes in the agri-food system and the shifts in consumption patterns. Technology advancements include advances in data-enabled technologies as well as improvements in production and processing technologies." (Henchion, Hayes, Mullen, Fenelon, & Tiwari, 2017, pp. 16-17)

One such change in production development is the shift towards more plant-based diets in Western countries, as it is the most efficient way to deal not only with population growth, but with climate change, too. 83% of the world's farmland is reserved for the use of meat, eggs, dairy, and aquaculture – which in turn only account for 37% of our protein and 18% of our

calories intake. (Poore & Nemecek, 2018, p. 990) The production of only one kilogram of meat requires the same amount of land and time span as 150 to 200kg of vegetables. An area of 12 to 32 m^2 is needed to produce one kilogram of animal-based products, such as meat, dairy and eggs, while vegetables, fruits or cereals would not exceed 2m^2 to produce the same amount. Moreover, 80 % of all land used for the cultivation of plants is used exclusively for the feed of livestock and not humans, which amounts to approximately 30% of the land mass of the whole planet. (Martinelli & Berkmanienė, 2018, pp. 510-511)

Not only the production of food, but also its transportation, storage and even cooking and the wastage, contribute significantly to worldwide greenhouse gas (GHG) emissions. (Scarborough, et al., 2014, p. 179) Today's food supply chain creates around 13.7 billion metric tons of carbon dioxide equivalents (CO_2eq), which is more than one fourth of all anthropogenic GHG emissions (26%). Of these GHG emissions through food, 61% is made by agriculture – even 81% including deforestation to support it. Today's agricultural system is very resource-intensive, as it takes up to 43% of all the desert- and ice-free land of the planet. Of this land, 87% is used for food and 13% for textile crops, biofuels or non-food uses such as wool and leather. (Poore & Nemecek, 2018, p. 987)

In fact, the emissions per unit weight of products of animal origin have much higher emissions than products which are plant-based. The reason for this is mainly the inefficiencies in cultivating and harvesting cereals which are only used for animal feed, while ruminants produce additional methane. (Scarborough, et al., 2014, p. 186) The GHG emission for one kilogram of meat, taking the example of bovine meat reaches 68.8kg of CO_2 emission, while vegetables (except coffee) do not exceed 3–4 kgCO2e/kg. The Ecological Footprint of a meal which is based on animal products surpasses a plant-based meal, which is equally nutritional and equally balanced, by 500%. (Gillian, C., 2000, pp. 289-290, as cited in Martinelli & Berkmanienė, 2018, p. 510.) In general, the livestock sector alone produces 15% of global greenhouse gases, which is approximately the same as all cars, trains, ships and aircrafts on the planet altogether. (Wakamiya, A., 2011, as cited in Martinelli & Berkmanienė, 2018, p. 510) In addition, 88% of the water we use for production and consumption is used for our food system. Whereas the required water for the cultivation of vegetables varies between 14 (carrots) to 201 (asparagi) gallon/pound, the meat industry requires between 518 gallon/pound (chicken) and 1,846 (beef) gallon/pound. This means that, on average, producing meat requires approximately 11 times more water than producing an equivalent amount of vegetables. Not to mention that 65 to 70% of the Amazon rainforest deforestation is due to meat production (especially bovine cattle). (Martinelli & Berkmanienė, 2018, pp. 510-511)

"Sustainable consumption and production have been seen as key in climate change mitigation and adaptation strategies." (Pezzini, 2013, p. 52) The World Commission on Environment and Development created a new concept of "Sustainable Development" in 1987: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (Brundtland & World Commission on Environment and Development, 1987, p. 43, as cited in Pezzini, 2013, p. 10). This means nothing more than that the modes of production (infrastructure) adapt in order to sustain the sociocultural system, including the very basis of it – its environment.

Sustainability in this sense can be achieved in many ways. For example, changing diet to one that excludes animal-based products reduces the amount of land used for food by approximately 3.1 billion hectares (taking 2010 as the year of reference), which is a total reduction of 76%, including a 19% reduction in arable land. Moreover, food's GHG emissions are reduced by 6.6 billion metric tons of CO_2eq (a 49% reduction), acidification by 50%, eutrophication by 49%, and scarcity-weighted freshwater withdrawals by 19%. (Poore & Nemecek, 2018, p. 991) According to an Oxford University study, the most effective way to reduce your Ecological Footprint is by avoiding meat and dairy. (Pezzini & Garðarsdóttir, 2012, p. 1)

As stated earlier, although animal farming requires most of our farmland, it only accounts for a very small percentage of our calories. Sustainable production and consumption are seen as the key for the required developments to adapt to natural and infrastructural changes. A shift from animal-based to a more plant-based diet seems logical. This kind of diet is often referred to as "ethical consumption", combining environmental concerns with human and animal rights. (Pezzini & Garðarsdóttir, 2012, p. 1) According to experts, an explosion of sales of ethical products, above all food products, has been observable, and it has been argued that ethical food shopping has become mainstream. (ibid. pp. 12-13)

The most common plant-based diet is currently veganism, i.e. the practice of consuming and utilising goods and products without any animals involved in the production. Even though it is not yet entirely mainstream, it has become increasingly popular in recent years. The number of vegans in the U.K. quadrupled between 2014 and 2018, and are further increasing – from 150,000 (0.25%) in 2014 to 600,000 (1.16%) in 2018. (Ipsos Mori, 2019). According to GlobalData's consumer surveys, around 1.6% of global consumers identified as vegan in 2017, an increase of 61% from 2014. (Global Data, 2018) Between 2 and 5% of the world population were vegan in 2017. The exponential increase in vegans and vegetarians hit 500% in the past few years. In Australia between 2014 and 2016, there was a 92% increase in the number of food products carrying a vegan claim. Germany, with the U.S. second and U.K. third, is the clear

market leader of vegan meat alternatives, with approximately 18% of the world's total. (Martinelli & Berkmanienė, 2018, pp. 507-508) This, of course, is still only a minority of the whole population, but it is not just about vegans per se. Veganism only serves as an example of one of the most consequent form of this overall trend, spreading from food to other kinds of consumption, such as clothes, energy production, mobility and so on. It serves as an illustration of the rapid developments in society's modes of production – especially in a globalised world, where such a trend concerns not only one, but all Western countries.

Taking a closer look at vegans, we can see that the majority is female in gender (74% in the U.S., 66% in Germany, 63% in the U.K.), and tends to be liberal-leftist politically (U.S.: 52% liberal, 14% conservatives, 34% "neutral"). They are statistically more highly-educated than people who have a diet that is heavily based on animal products. They are also more likely to live in urban areas and represent a tendency towards more secular views on religious matters. (ibid.) 56.9% of vegans are also between 18 and 34 years old. (McCormick, 2019) Thus, the highest number of food-related GHG emissions are produced by meat-eating men, and the lowest by vegan women. Taking into consideration factors such as sex and age, the daily food intake of about 2,000kcal with a high consumption of meat was responsible for roughly 2.5 times as many GHG emissions than the average 2,000kcal diet excluding animal products. (Scarborough, et al., 2014, p. 186)

Many "[…] seek sustainability, but they do not want to give up their standards of consumption to achieve it." (Pezzini, 2013, p. 15) But with new technology and thus production mechanisms, it is possible to decrease animal-based proteins and alternate with plant-based proteins. After all, everything is about cost-benefit balance, and due to advances in the production mode, plant-based diets are becoming more efficient. We know that "[…] some edible species are more useful than others; therefore, some potentially useful species will be neglected in order to optimize the cost/benefits of production and the maintenance of nutritional standards." (Harris, 1987, p. 74)

A Rapid World Implies Rapid Changes

Obviously, "[l]ike most primates, humans are omnivores in the narrow sense of consuming both plants and animals. This omnivorous capability is undoubtedly a phylogenetic characteristic – a part of 'human nature'. Yet omnivory is a rather vague dietary concept." (Ross & Harris, 1987, p. 91) An omnivore is defined as any mammal that takes food from more than one trophic level, and, although they appear to have similar nutritional requirements, every species satisfy their needs in different ways, leading to a huge range and variety of food. (Milton, 1987, pp. 93-94) One consistency of human diet was that "[…] both animal protein

and animal fat may have been important dietary resources for early humans." (ibid. p. 107) Cross-cultural data demonstrates that all human cultures include both in their diets – some types of animal proteins and some types of animal fats. These foods and the usage of them is determined by ecological and economic factors. (Abrams, 1987, p. 216)

"But it should be kept in mind that the evolution of foodways is probably subject to selection by costs and benefits that encompass more than the strictly nutritional composition of foods." (Ross, 1987, p. 162) This means that the preference for animal-based foods was possibly a response to the more valuable composition of calories and nutrients in these foods in comparison to plant-based foodstuffs. (ibid.) This preference appears to be a dominant human dietary trait from the earliest times and is present in almost all human diets. (Abrams, 1987, p. 216) "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, 1987, p. 80)

In the end, such preferences depend on the specific natural environment and the developed modes of production. Nevertheless, "[m]ost of the world's populations live on diets characterized by very high intakes of plant foods and based on a starchy, bland staple." (Lieberman, 1987, p. 241) The chances that Western society or the entire world will adapt to a plant-based diet are far from realistic. Historically, only a few sociocultural groups such as Orthodox Hindus, Buddhists, Seventh Day Adventists and some other smaller groups like Trappist monks followed a vegetarian diet. (ibid.) However, the production and consumption rate of plant-based products is undeniably increasing very rapidly. It was once unimaginable to be able to obtain all necessary nutrients through a plant-based diet, but this has now become reality, along with the fact that you can feed more people in this way and plays a central role in sustaining the natural environment, off which we ultimately live. This means that through technological advancement, the benefits of plant-based products are becoming stronger than those of meat products, and therefore will be also more widely consumed. "I think that in many countries, veganism will be the norm, like after ten years maybe or something, many Western countries at least. […] I think, definitely it will become a norm." (SA, 2018) As the head of trading put it, "we have to be prepared for this evolution of vegan. It has become a bigger group of our customers, they will demand more options, so we will have to be up to it. […] I think this will be a huge category after a few years." (SG, 2018)

"This shift in business practices is so relevant that some marketers have claimed that ethical consumption is perhaps the biggest movement in branding today." (Pezzini & Garðarsdóttir, 2012, p. 1) The importance of sustainable production mechanism in feeding the growing population is steadily increasing, as well as in tackling the environmental changes ahead of us, and even in dealing with food production crises, for which an ideational support in the form of

the superstructure is also required. Values, norms and beliefs, in other words the emic mental superstructure, are adapting. In this context, ethics again plays a significant role, which we have already seen in the use of the term "ethical consumption" throughout this work. But other factors such as the growth of environmental groups and the rise of media reports concerning ethical issues (Pezzini, 2013, p. 13) serve as a form of the etic behavioural superstructure. This in turn increases the production and therefore the availability of such products through feedback loops.

After all, everything is about cost-benefit optimisation. We must optimise our diets based on what we have available around us and the technology to which we have access. As such factors are in constant change, they cause diets to evolve, too. To deal with changes such as pressures on reproduction or even something like climate change, a phenomenon that requires adaptation on a global scale, we must adapt our diet to the most cost-efficient form. This includes factors like the nutritional intake as well as environmental outcomes like GHG emissions. As a result of modifications in production, the most efficient form today is a (more) plant-based diet, which can be followed in the trends of the last years – for example in the rise of veganism as a form of a sustainable way of consumption. As this development is supported ideologically through the emic mental and etic behavioural superstructure, it is also called "ethical consumption".

7.4 From Global to Local Phenomena

We know, "[c]uisine is a distinctive cultural phenomenon. Featured foods depend on the dominant domesticated staples, resources gathered or hunted from the wild and, increasingly, availability of manufactured product." (Fieldhouse, 1995 [1985], p. 75) This availability of products is dependent on factors which underlie continuous change such as ecologic or economic circumstances and includes influences that come through the exchange with other sociocultural groups.

> "Adaptation embraces both relation to nature and, except for completely isolated societies, to other cultural systems. Adaptation to nature will shape a culture's technology and derivatively its social and ideological components. Yet adaptation to other cultures may shape society and ideology which in turn act upon technology and determine its further course. The total result of the adaptive process is the production of an organized cultural whole, an integrated technology, society, and ideology, which copes with the dual selective influences of nature on the one hand and the impact of outside cultures on the other. Such are, in general outline, the mechanics of cultural adaptation." (Sahlins & Service, 1970 [1960], p. 48)

Such influences from outside cultures essentially started in Iceland when the international market became accessible, resulting in immense consequences for all levels of the social

system. As we have seen, this influence did not stop there, but instead only increased in the recent decades and years.

Modernisation, Globalisation, Homogenisation

Economic globalisation means an increased flow of goods and services across borders. And tourism plays a vital role in this. More and more people from different places are coming together – a trend that is only intensifying further. Goods spread across borders and integrate in a new system. Even though the exchange of food across regions, nations and continents is not a new phenomenon, the influence of technology, airplanes and various forms of media, is accelerating the process. In the worldwide circulation of knowledge about food items and behaviours, tourism can play a significant factor in reinforcing ideas about lifestyle. (ibid. p. 44) Thus, global flows have always existed, but "[…] they became exponentially faster first with boats and printing, then with airplanes and telegraphs, and now with electronic and fiber optic networks and computer technology. Because of radical changes in means of communication—the introduction of space satellites, computer technology, Email, mobile telephones, FAX machines, cable television—cultural artefacts nowadays move across continents with the speed of light." (Durrenberger & Pálsson, 1996, p. 6) Food has been, and continues to be, of central relevance to this production of a global world. (Fieldhouse, 1995 [1985], p. 9)

> "The orienting process of development is adaptation to these traits to the expropriation of nature's resources and to coping with outside cultural influence. In this orienting, adaptive process elements within a culture are synthesized to form new traits, an event we call 'invention', and items made available from the outside are incorporated, a process we call 'diffusion' or sometimes, 'acculturation'." (Sahlins & Service, 1970 [1960], p. 24)

But whether new traits are accepted or not is dependent on many factors. The "Law of Cultural Dominance", as explained in Chapter 5.2, indicates that the most effective way to exploit energy resources will spread, in contrast to less effective systems. (Sahlins & Service, 1970 [1960], p. 75) This was the case with industrialisation as means of production, which was more effective than subsistence farming and fishing in Iceland. Such processes result in an increased homogenisation of cultural, and even natural environments. (Hannerz, 1992, p. 262) "[…] [G]eneral evolutionary advance in both the organic and cultural realms has been achieved by a succession of dominant types each of which has embodied more varied and effective means of exploiting the energy resources of a greater variety of environments, and as a result has tended to spread at the expense of previous types." (Sahlins & Service, 1970 [1960], p. 91) As it is a trend toward a greater convergence, it consequently brings homogeneity and thus a decrease in the diversity of cultures with it. (ibid. pp. 72-73) This is also exactly what happened during Iceland's modernisation. With such changes to the infrastructure, specifically to the modes of production, other parts of a society are logically affected too, including consumption

patterns, which assimilated to Western standards. This can be seen in a shift from the traditional animal-based diet to a more plant-based diet, or in general in the processes of industrialisation and urbanisation.

The recent infrastructural changes in Iceland, such as the increasing number of tourists and migrant workers, along with the intensification of production mechanisms like the number of imports, results in the further expansion of diets which are more and more based on plants. "[…] [L]arge-scale structural changes, such as war and migration, may change the rules of the game, so to speak, compelling people to reorder their categories of meaning in new ways, and to eat (and drink) differently." (Mintz, 1996, pp. 31-32) Even though tourists contribute to only a small part of total food consumed in Iceland, there is huge interest in understanding their food preferences and marketing local foods to them as part of regional development and tourism strategies. "Therefore tourists are an important part of the food system in Iceland […]." (Halldórsdóttir & Nicholas, 2016, pp. 2-3) According to experts, a transformation has been taking place in Iceland, with issues regarding the responsibility of producers and consumers also coming to the forefront. In the past 10 years, CSR initiatives have not just expanded in number but also increased in scope. Furthermore, ethical consumption has been increasingly present in the Icelandic media, which serves as the etic behavioural superstructural support, and inhabitants show increasingly more receptivity in regard to sustainability. (Pezzini, 2013, p. 34)

The Rise of Certain Food Systems

As we live in an increasingly globalised world characterised by processes of hybridisation, a trend towards an intersection of various foods and food-related habits has become unmistakable. Similarly, „[t]he Icelandic diet is traditionally based on meat, fish, and dairy products, with a changing trend towards a more plant-based diet in the last decades." (Halldórsdóttir & Nicholas, 2016, p. 2)

Whereas consumption is indeed increasing world-wide due to the Westernisation of non-Western countries, exponential growth in the consumption of plant-based products in the Western world is also likely to continue. One factor is the (especially vegan) diet's high visibility in popular culture and especially on social media. In Iceland, the high percentage of tourists that are, as we elaborated, Western, young, educated, urban and pro-environmental, are part of the same target group as most vegetarians and vegans. Furthermore, most tourists come from countries like the U.S., U.K. and Germany, countries with the strongest vegan communities. As tourism has become an increasingly important market, it affects the products imported to Iceland. Young people are central in this shift towards more plant-based diets.

"Food habits change most rapidly among the young who are subject to school and work peer influences, and where there is little cultural support for the old ways." (Fieldhouse, 1995 [1985], p. 6) Regarding the consumption in Iceland, the intake of vegetables decreases with age (Rasmussen, et al., 2012, p. 43), and the intake of fish is still more common in rural areas than urban. (ibid. p. 52)

Such developments, especially those concerning young people, can be observed through social media, where the private Facebook group "Vegan Ísland" has 22.974 members (18.02.2020), making up 6.76% of the population. Just like the media in general, it belongs to the etic behavioural superstructure of the society, to which topic we will return later. According to one vegan activist, about half of the members are not vegan, but this means that many people who are not vegan are at least interested in the vegan lifestyle. (SA, 2018) Also, the non-vegan head of trading is part of this group in order to stay informed on the popularity of (vegan) products. (SG, 2018) "For example, in our biggest store in Reykjavík almost every week, we have someone coming in there and leaving a note or asking something in vegan products, that they have seen on the internet or bought in Europe or the U.S. and asking can you supply us with this. And the community is really strong. I'm part of the vegan group on Facebook and you know this is a very active group of people. They are helping each other, finding the right goods, where this is available and that, so it's a good point to also keep that in mind during this tourist revolution going on here and everything, the increase is dramatically." (SG, 2018)

According to Google trends data, which analyses the popularity of a category of searches, Iceland was number one in the worldwide rankings regarding the popularity of veganism between 2016 and 2019. As one person observed, "I think there is a trend that is changing." (SA, 2018).

Google Searches for Veganism in Iceland

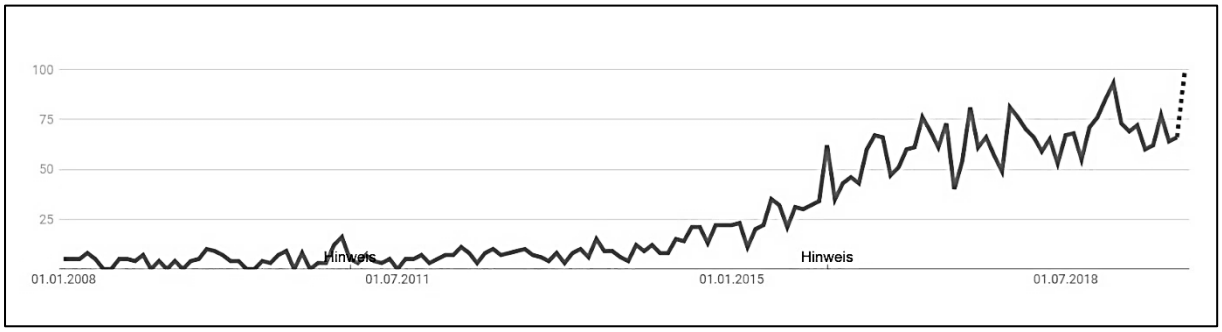

Figure 34: Google Searches for Veganism in Iceland 2008–2019 (Google Trends, 2019)

"Iceland is becoming multinational, a lot quicker than before. Regarding food it has given a fantastic opportunity to serve at restaurants and cafés, both for the Icelanders themselves and tourists." (GHS, 2018) There are now new products in stores, as well as new cafés and

Google Searches for Veganism Worldwide

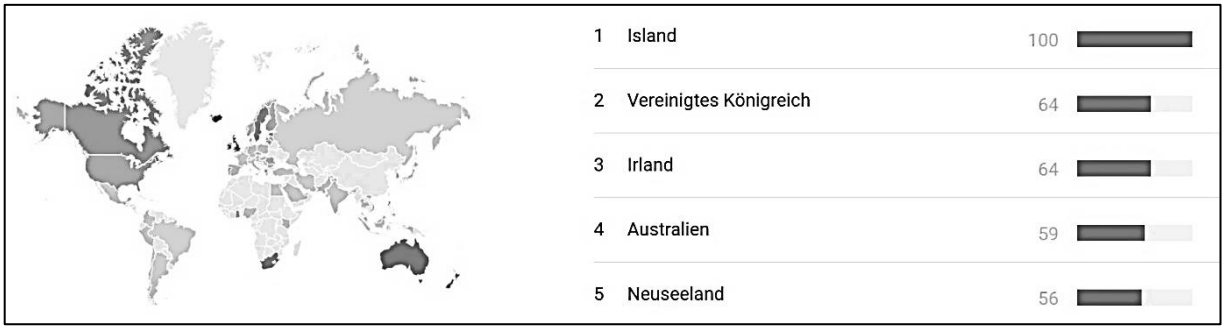

Figure 35: Ranking of Worldwide Google Searches for Veganism (Google Trends, 2019)

restaurants offering Icelandic people a variety of many different products that were not available before. (ibid.) Everyone agrees that tourism has a positive impact on restaurants, especially for vegan menus. Business owners notice the boom and interest both from tourists as well as the locals. By now, there are several exclusively vegan restaurants, with almost all restaurants offering at least one vegan option, and due to the special application ("Vegan Iceland"), most restaurants now clearly label their dishes. "It's not yet mainstream, but it is becoming more, and you can see an influence on the market. Many more vegan options, many more vegan restaurants. It is an explosion of more vegan products" (JL, 2018) – "at least in the urban area, as it is the same with other countries, but especially Iceland, as more than half of the population lives in Reykjavík. It became a lucrative business [to] just have one vegan dish on the menu to lure groups into the restaurants." (SA, 2018) "The variety has grown. I think it's getting more popular. It's giving them a reason to import more. It is still changing. It's still increasing a lot." (JL, 2018)

"In many ways it's bringing modern times to Iceland faster. I mean these things change, and they change fast. It's just part of this boom. It has changed in a way that they are offering goods and foods at low price and things like that, which they did not do before. I think also there is a certain awakening, and the supermarkets and food stores are aware of that." (GHS, 2018) And grocery stores have to be prepared for this, according to the head of trading. (SG, 2018) The group of customers demanding more options has become larger, especially over the past 3 or 4 years. In general, eco-friendly goods are on a steep rise and will continue to be a huge category. But the vegan foodstuff is not necessarily healthier. "We see also an increase of people that are meat eaters but doing a vegan day in the week, or even doing more [...] this [vegan alternatives] is bought by all kinds of people. A vegan good, marked with a vegan signal or post-it, is bought by every other one. It used to be just vegans [that] ate vegan meals, vegan goods, but now it's just a category in the overall store. And it's a category on a huge rise. We are looking for vegan products more and more and we are selling more and more of it. We import vegan goods from abroad – as a category it's getting stronger and stronger, it's getting bigger and

bigger." (SG, 2018) For him, local producers must adapt, as people want more plant-based, but also more regional goods, without relying on imports from other countries due to the pollution of transportation. (ibid.)

Concerning this trend, the food store chain Samkaup's head of trading commented, "we'll have to be prepared for this evolution of vegan. It has become a bigger group of our customers, they will demand more options, so we will have to be up to it. We have to be prepared with more increased space and next doors for these goods. […] And of course, I think the local producers they will also have to take this into their operation. Because we are also seeing bigger groups buying more vegan goods. You will be seeing those people saying we want to have this as a local product. Not importing this from China or Europe. Because that's pollution. […] I think this will be a huge category after a few years." (SG, 2018)

But in the past few decades, Iceland has experienced a development away from self-sufficiency and become dependent on imported food. If all consumption were supplied locally, diversity would ultimately decrease by 100% for fruits, cereals and beans, 75% for beverages, and 50% for vegetables, sugars and oils. Iceland is only self-reliant for dairy and meat. (Halldórsdóttir & Nicholas, 2016, p. 7) It is clear that Iceland cannot feed its rising population (especially with the high number of foreigners in the country) without imports. Additionally, it has an extremely fragile trade network, as we saw during the financial crisis, and the cold and harsh climate limits agriculture and can lead to crop failures, as seen during the Eyjafjallajökull eruption in 2010. Such incidents show the unmistakable vulnerability of Iceland concerning food insecurity. It needed to find a way to protect its supply from such unpredictable events. (Butrico & Kaplan, 2018, p. 718) And as we could see in Chapter 6.3, following these crises in food supply, Iceland started to increase national production through a rise in national livestock and development of agricultural land. The head of trading agreed that Icelandic vegetable farms have been increasing their ability to produce. Even though they are not able to supply for the whole year, they have increased productivity from 3-4 months 10-15 years ago to 6-7 months a year – "just by strengthening their ability by building more greenhouses." (SG, 2018) And this, too, constitutes sustainable or ethical production and consumption.

Because the most cost-efficient way of harnessing energy will spread to systems that are less efficient, homogenisation inevitably accelerates. Through increased interaction on an international scale, or what we would call globalisation, just like through the modernisation process, the global flow of goods increases and results in a shift away from national diets towards one Western diet. We know that over time, norms change – some disappear, some are replaced, some are reinterpreted, and some continue to exist but with reduced importance. (Eriksen, 2010 [1995], p. 64) In Iceland, norms are undoubtedly influenced by the 2,300,000

mainly young, Western, and educated nature-lovers – not to mention all the migrant workers. Therefore, just like in other Western countries and especially the most influential ones, plant-based diets, or shall we say plant-based products, are gaining in popularity in Iceland as they offer the best cost-benefit balance to nourish people on a global scale and to deal with today's challenges.

> Nowadays, "[f]oodways may be 'deterritorialized' by global projects, but at the same time re-embedded in some place, as changing ideas about food and the world are re-inscribed by people. […] The lesson here is to attend analytically both to how people are being mobilized in new ways through globalization processes and how they produce new meanings as they undertake their food-related practices." (Phillips, 2006, p. 45)

These new meanings, i.e. the emic mental superstructure, but also the etic behavioural that comes with it, will now be further illustrated.

8 Material Changes and Non-material Consequences

> "People's lives are shaped by material conditions of production and the social arrangement they live in. The reciprocal interplay of material production and social arrangements, as interpreted through cultural categories and values, is like a dialog between the physical and the nonphysical, or the social and ideological." (Plattner, 1989, p. 381)

As we elaborated in Chapter 3, the causal centre for sociocultural change is the etic behavioural infrastructure, which consists of modes of production and reproduction. For Harris (2001, pp. 55-56), "[t]he 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 superstructure." The foundation of each sociocultural system is the environment. Every society must adjust to the existing environmental factors like different soils, plant and animal life, and the availability of natural resources. And these adjustments can only take place through the infrastructure. Thus, the infrastructural components, i.e. the mechanism of subsistence or economy and the mechanism of population control, are determined by environmental factors.

While we are focusing mainly on these factors – environmental and infrastructural conditions and processes – we must also not forget that, for an accurate understanding and explanation of sociocultural phenomena, the inclusion of non-material or ideational aspects is necessary too. The superstructure of a social system is divided into two parts: behavioural and mental. Whereas the first comprises activities, art, sports, folklore, music, dance, literature, rituals, advertising, sports, games and hobbies, the latter consists of beliefs, in other words the shared assumptions of what is considered true and false, values, which are socially defined conceptions of worth, and norms – shared standards or rules.

Even though the etic and behavioural conditions and processes are prior to emic and mental conditions and processes, while infrastructural are prior to structural and superstructural conditions and processes, "[…] it does not deny the possibility that emic, mental, superstructural, and structural components may achieve a degree of autonomy from the etic behavioral infrastructure." (Harris, 2001, p. 56) Hence, we know that ecological, economic and social factors exercise a major influence on food patterns (Armelagos, 1987, p. 589), but what we also want to ascertain is to what extent food patterns affect other aspects of culture, such as the emic mental superstructure.

8.1 Imported Stuff – Imported Values

Foodways satisfy needs in varying degrees of efficiency (Harris, 1987, p. 79), for which the specific food habits of a sociocultural system are chosen in order to provide the best diet at the least cost and risk. This optimality of food "[…] undoubtedly endows human beings with certain food preferences and aversions at birth." (Harris, 1987, p. 79) Food preferences are therefore not only rooted in the nutritive factors of a given produce or diet, but in underlying economic and social conditions (infrastructure and structure), and are usually quite resistant to change. (Mintz, 1996, p. 24) But dietary patterns do change when certain changes in other parts of the social system arise, as we have already seen with several examples concerning Iceland.

The Superstructure Involved in Food Change

"Change occurs over time because of ecological and economic changes leading to altered availability, discovery or innovation of foods and diffusion or borrowing of food habits from others." (Fieldhouse, 1995 [1985], p. 2) Altered food habits do not just appear in times of crises like the financial collapse in Iceland, but also and equally radically, when new and more efficient products become available. According to food anthropologist Sidney Mintz, fundamental dietary changes occur by adding new food items, rather than just diminishing older ones. (Mintz, 1985, p. 13) In this case, when new foodstuff arrives, a transformation begins to incorporate the new behaviour into their own. And "[t]hey did so, as human beings have always done, by giving meaning to their own achievement" (Mintz, 1996, p. 49), as "[…] our capacity to symbolize, to endow anything with meaning and then to act in terms of that meaning, is similarly universal and intrinsic to our nature […]." (Mintz, 1985, p. 154)

We know from Chapter 3.4 that all our behaviours are accompanied by certain meanings, and when such behaviours change, the new behaviour is bestowed with new meaning. This is done

because all human beings are parts of a social system, and think, act and feel only in terms of it. This system has its own interests in mind, for which the right behaviour of its members must be encouraged and the wrong discouraged. And this is the role of the ideational layer, or the society's superstructure. Thus, formerly unfamiliar items that, due to their cost-efficiency, have now started to be used also acquire new meanings. "For individuals, the first step in consumption is appropriation, establishing a mental association with the objects to be consumed." (Carrier, 2002 [1996], p. 194) Therefore, "[…] individuals transform objects from being impersonal commodities into things with distinctive meanings for the consumers and distinct places in the consumers' social lives." (ibid.)

As all goods incorporate specific meanings, transferred products are also accompanied by certain ideologies. (Dabringer, 2009, pp. 20-21) "Not only the actual foods consumed change but there are accompanying changes in beliefs, attitudes and social uses for foods." (Fieldhouse, 1995 [1985], p. 6) Thus, the pre-existing meanings of the foodstuff affect those who start consuming them (Carrier, 2002 [1996], p. 195), which can have strong effects upon existing cultural ideas and ideologies. (Elwell, 2013, p. 50) This process is nothing other than changes in the etic behavioural infrastructure, affecting the emic mental superstructure and thus beliefs, values and norms of the respective social system. This is what Mintz means when he says that "outside meanings" set the terms for "inside meanings". Specific structures of a society indicate specific values. (Schuerkens, 2017, p. 54) And the increase in interactions between nations led to an internationalisation of very specific structures, and thus specific values (ibid. p. 10) – which we have seen with the rise of modernisation and globalisation in Iceland. "The analysis of a transformation process is based on the fact that any given structure at a particular time may no longer be based on an acceptable value system. This structure proves then to be no longer adapted to social reality. If the action system changes, structures that are no longer favoured become problematic." (Schuerkens, 2017, p. 9)

Encouragement and Discouragement of Behaviour

If we know one thing, it is that when other components of a society change, norms change, too. (Eriksen, 2010 [1995], p. 64) And with a new infrastructural and structural norm, a new value system becomes the norm. (Schuerkens, 2017, p. 9) Concerning food items, certain economic and ecologic changes creating a new cost/benefit balance can be responsible for the discontinued consumption of certain perfectly edible items. Individuals need some sort of discouragement from using these items, which can be found in the form of taboos. The term "taboo" is herewith usually used for aversions of a more sacred sort, such as a ban from a deity. (Harris, 1987, p. 78)

In Western societies, for example, cats are not eaten because they are more useful for mousing; dogs are more useful for lookouts, herding, hunting and scavenging; horses for riding and traction; and cattle for traction, milking and 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.” (ibid. p. 75) Profitability, along with the modes of production, is thus a key factor in developing and persisting foodways. (ibid. p. 82)

> “If a human group has witnessed the depletion of a species or the degrading of a habitat, it is entirely plausible that an appropriate ambivalent or negative attitude would survive the passage of several generations and persist even after the endangered species or habitat had been restored to exploitable levels. If these attitudes and their corresponding practices result in a dampening of exploitation rates, they will tend to be propagated even if short-run cost/benefits favor more intensive use.” (ibid. p. 77)

One critique concerning optimisation models states that if such aversions are due to unfavourable cost/benefits, there should be no proscriptions such as religious ones needed, as self-interest should be sufficient. But the utility or non-utility of an item is subjective, and there are arguments for and against consuming it. “Taboos are culturally selected for their ability to overcome the ambiguity and ambivalence generated by the complex systemic interrelationships in which foodways are embedded.” (ibid. p. 78) There is not much doubt left if the voice of a deity forbids something. Such taboos are likely to arise as a consequence of ecological and infrastructural changes, when the systemic cost/benefits of an item shift from favourable to adverse. But they can vanish again, too, if the conditions require it. “If a taboo is associated with higher levels of collective material well-being, it will be maintained. If not, the taboo will be withdrawn or reversed.” (ibid.) Therefore, the infrastructure and structure of a society gain ideological support through norms, values and beliefs, that can either encourage or discourage certain behaviour. The whole system is dependent on such ideological commitments to enhance it. Like religion and taboos are used in sociocultural groups as moral constructs, so is ethics today. And therefore, “[…] preferences and aversions are produced within the human organism by a culture acting upon it from the outside.” (White, 1969 [1949], p. 153)

Of Whales and Ethics

Whales were long the focus of industrial exploitation, which decreased many populations to a level near extinction. “Indeed, the closure of whale-processing factories and the discontinuation of commercial whaling has been due almost entirely to over-efficiency, resulting in ‘economic extinction’ (the depletion of stocks to the point of commercial non-viability).” (Higham, Bejder, & Williams, 2014, p. 2) This led to moral concerns and events such as the IWC Moratorium, which were described in Chapter 5.4. In Chapter 7.2, we

elaborated the different functions a phenomenon can have and how these functions can change completely, like the function of whales. Many economic and even ecologic factors surround whales nowadays, especially in Iceland: the fishing rents, touristic consumption, ecotourism, whale-watching and the nation's reputation, the fear of boycotts and sanctions and the ecological significance.

In regard to whale meat in Iceland, although the consumption of it was not banned to favour a sacred deity, it became gradually objectionable due to new moral standards. "Other foods or food products may be occasionally singled out by individuals or groups as being morally unacceptable because of the way in which they are produced or marketed." (Fieldhouse, 1995 [1985], p. 150) Ethics are a set of rules designed to regulate the behaviour or individuals. (White, 1959b, p. 217) Just like religion, ethics are part of a belief system, and thus a component of the ideational layer of a sociocultural system and important for the conservation of the system.

As well as food items, specific structures and therefore specific values were brought to the remote and underdeveloped island. Whale products themselves became more and more obsolete through the modernisation of Iceland, as they were no longer necessary as an additional foodstuff, nor for lightning or other purposes. But it was still a significant factor for Iceland's economy, as the fisheries throughout the 20th century constituted the most economically viable resource. With the rise of globalisation, the importance of whales for the marine sector decreased as a consequence of the increased significance of energy-intensive exports and tourism-related services for the Icelandic economy. (Seðlabanki Íslands, 2019, p. 14) Even though the fishery sector is still one of the main pillars of export activities, its importance is decreasing. Whereas in 2013, one quarter of total export earnings from goods and services in Iceland came from fisheries (26%), this decreased to about 16% in only four years. Likewise, the sector's contribution to the GDP fell to only 7% in 2017. (ibid. p. 17)

Albeit a few decades later than in other ex-whaling countries, the opinion concerning whales changed, especially in regard to ethics. In accordance with these economic developments, whale meat and in general whaling has been increasingly opposed by Icelanders, with one exception right after the financial collapse. A Gallup polling from 2013 indicated that 60% of Icelanders supported whaling, while 18% opposed it. 5 years later, only 34% agreed with a continuation of commercial whaling, while 34% opposed it and 31% neither supported nor opposed the practice. Support for whaling decreases with higher incomes and more education, and younger people and women are also more likely to oppose whaling. (International Fund for Animal Welfare, 2019) We can also see a generation difference, as 69% of aged 18-24 oppose whaling, while only 10% support it. In comparison, about half of those over the age of 55 are in support of the practice, and 28% oppose it. But not just younger people are more in

favour of a whaling ban: people living in urban areas are also more likely to oppose whaling than those in rural areas. (Zenter for Fréttablaðið, 2020) This supports the previously examined consumption patterns of whale meat including an urban-rural and generational distinction.

One interviewee explained that he tried to give up meat 20 years ago, but "there was hardly any other food besides meat in Iceland." (Anon. Int., 2018) With the changes in the infrastructure, it has now become possible, and he has been vegan for nearly four years. Even though whale meat was normal to him as he comes from a small fishing village and grew up with a regular consumption of whale meat, he now does not want to use it anymore, as he thinks it is morally unacceptable. (ibid.)

Changes in a sociocultural system, including changes in something like the availability of resources, either due to environmental or socioeconomic transformation, are always accompanied by changes in behaviours of the affected people. As some of these developments, like modernisation, globalisation or climate change, occur on a global scale, new norms and with them new meanings spread internationally. To discourage the "old" less cost-efficient behaviour, aspects belonging to superstructure are used, like beliefs, values or norms. Today's ethical conception can be understood as one such belief system that discourages certain behaviours like the hunting and consumption of whales and encourages others, like sustainable lifestyles including consumption. This has become apparent with the shift in the function of whales in Iceland – the less relevant whaling and whale meat becomes for the economic system, influenced by factors such as the increased value of tourism and whale-watching and the decreased value of whale-produce and fisheries, the higher the ideological opposition. And through this ideological support of the infrastructural and structural circumstances, the system is not only sustained but reinforced.

8.2 The Role of Media, Literature, Activism and Education

As we know, the role played by ideology is subordinate to the constraints on the infrastructural and structural level. "Material conditions cause certain structures to arise and endure; material conditions allow particular ideas and not others to gain widespread acceptance." (Elwell, 2013). The superstructure involves the ways in which the members of a society think, conceptualise, and evaluate their behaviour, and is developed in the individual's early socialisation and refined and shaped throughout their lives in interaction with others. (ibid.) While the emic mental superstructure includes values, norms and beliefs, the etic behavioural

includes things such as the media, advertising or even education. Let us now illuminate which value systems underlie behavioural events belonging to the superstructure of a social system.

National vs. International Discourse

Production modes globalise, including products, and therefore diets globalise. And just as the emic mental superstructure reinforces this process, so does the etic behavioural superstructure. Instead of relying on belief systems, it uses media, advertising, literature and various activities, which are filled with the required norms, values and beliefs.

"As diets globalize and the food system globalizes, advertising and the structure of the food supply chain also have a large influence on what people choose to eat." (Ericksen, 2008, p. 238) In the case of Iceland, the media, the internet and especially social media have been essential features of the past few years, which have accompanied and even intensified the socioeconomic changes in the form of feedback loops. "[…] [M]edia and product advertising have been a crucial technical component to how the global imagination regarding assumption practices has been fed." (Phillips, 2006, p. 45)

In the international media, the recurring opinions concerning whaling in Iceland were as follows:

- It's not eaten in Iceland
- It's only exported
- It's old-fashioned
- It's not necessary anymore
- There are enough alternatives
- It's unethical
- It's ridiculous
- It's not healthy
- It's not traditional
- It's not common
- It's only used for pet food
- It must be imported to meet the demand
- It's bad for whale-watching
- Only tourists responsible for whale meat demand
- Tourists lured thinking it's traditional
- Appeal to tourists not to consume it
- Other countries condemn Iceland
- There are international petitions against it
- It's only one bad company (Hvalur H/F)
- Scientific whaling is a scam
- Scientists lie when claiming no impact on stock
- Anti-whaling activism is big
- Whaling companies are in financial trouble
- Include statistics indicating low consumption
- Include false facts

As we can see, the international media discusses the topic from a generally anti-whaling perspective, with no or little understanding of the Icelandic economic situation and its

historical particularities. The Icelandic media, in contrast, is more or less divided, as on the one hand it leans more towards anti-whaling, but also includes justifications for the practice:

- It is traditional
- It was essential for survival
- It threatens tourism
- Tourism is economically (more) important
- Iceland's reputation is important
- It has a negative impact on whale-watching
- It has no negative impact on economy
- It has no impact on stock
- It is good for fisheries

As with any sociocultural trait, the media makes up part of a belief system and is therefore biased. Icelandic media is no exception. The newspaper "Tíminn", for example, is owned by the former fisheries minister's party and known for downplaying this issue. "Despite different policies regarding the issue, the media framed discussion in terms of domestic understandings and did not fully represent the full scope of foreign anti-whaling arguments." (Brydon, 1996, pp. 41-42) A special position is held by Icelandic newspapers in English language, such as the "Reykjavík Grapevine" or the "Icelandic Times." Such newspapers can be found in every hotel, bar and tourist information centre, and can therefore be understood as "international media", as they are usually written by foreigners for foreigners. Here, we can see that the media is nothing more than a function within the social system in perpetuating itself.

Another way to convey right and wrong behaviour is literature. When browsing through stores in Iceland, one can find many books containing recipes on Icelandic cuisine. But even in this case, there was a difference between books written in Icelandic and books written in English for tourists. In only one English cookbook was a recipe for whale (minke whale steak) included, whereas recipes for various usages of whale meat were present in most Icelandic ones. The bilingual English - Icelandic food magazine "Fæða / Food" included descriptions about people, their food habits, restaurants, recipes, even the exact development of Icelandic nutrition, but the one thing that was not mentioned a single time was whale meat. This reflects the international discourse, which is important to adapt for international visitors. While the media in Icelandic that is aimed only at Icelanders is full of discussion reporting both pro- and anti-whaling perspectives, the international media, even if they are in Iceland and targeted at foreigners, usually do not justify whaling or include the history of it. All this is part of the etic/behavioural superstructure, a logical deduction and function of the sociocultural structure, as are forms of activities like hobbies or activism, which we shall now further elaborate.

Anti-Whaling Activism

As mentioned in Chapter 5.3, the position of the anti-whaling faction that emerged from the environmental movement of the 1970s has developed in industrialised ex-whaling nations. This viewpoint has become increasingly significant in Iceland, as whaling becomes less so. Whales are considered "mystical creatures" and as "charismatic megafauna". Large animals like elephants, panda bears and whales were being anthropomorphised and become figureheads for environmental causes. Due to their perceived humanlike nature, they receive attention and require protection. (Oslund, 2011, p. 164) For marine environmental issues in particular, whales have been kind of a mascot. The phenomenon of "sentimental anthropomorphism" has increasingly been observed in urban Western culture, above all by the younger population, which seeks out wildlife to look at and admire. (Einarsson, 1996, pp. 46-48) One example for this perception is as follows: "It was so sad because I saw whales in the wild and it's the most beautiful thing in the world." (JL, 2018)

But this outlook is very different to that of Icelandic fishers or hunters, whose only reason to come close to an animal is (or was) to hunt it for their survival. "Whales are a symbol of nature for many environmentalists, whilst Icelandic fishers have far less romantic views of these marine mammals." (Fitzmaurice, 2015, p. 138) The utilisation of whale resources has been a traditional part of Iceland's history, providing an important dietary component throughout the centuries. (Rasmussen, 2014, p. 81) Still, the main argument of anti-whalers is that whaling is not a traditional activity in Iceland and they have tried to affect it by demonstrating and interfering with whaling operations. (Brydon, 1996, p. 31) International NGOs, such as the "International Fund for Animal Welfare" (IFAW), "Greenpeace" and the "World Wildlife Fund" (WWF), have often targeted Iceland, as it is a very small country and presumably easy to influence. During that time, both sides used the media to portray the other side as devious and greedy, thus, to convey specific values. (Brydon, 1996, p. 35)

Activist Paul Watson, founder of Sea Shepherd, is one of the known militant "ecowarriors" engaged in whale conservation. In 1992, after sinking a minke whaling boat in Norway, he sent "a letter to the Norwegian people", which was published in a Norwegian newspaper, in which he says: "Do you want your children to hear about what you did to the whales from the very same beings that you have helped to slaughter? It is a certainty that the whales will talk about you in the same vein as Jews now talk of Nazis. For in the eyes of whalekind, there is little difference between the behaviour of the monsters of the Reich and the monsters behind the harpoon." (High North News, 1992, p. 1, as cited in Einarsson, 1996, p. 55) Such messages and actions only reinforced the opinion held by some in whaling countries such as Iceland and Norway of environmentalists as dangerous extremists. (ibid.) In 1986, two activists from Sea Shepherd came to Iceland with the plan to sink Kristján Loftsson's (owner of Hvalur H/F)

whaling fleet. They destroyed equipment at the whaling station and of the four whaling boats docked in Reykjavík harbour, they sunk two (the other two had people on board, so they were not targeted). This act is considered the first and only terrorist attack in Iceland. The government and the population felt attacked by a foreign activist group trying to interfere in Iceland's traditions, its identity and its sovereignty. (Fitzmaurice, 2015, p. 138) "Once someone from the outside is pointing at Icelanders, they feel that they are threatening all of them. So, they say, 'oh poor whaler, look at him, he is just trying to do his job'. You attack one Icelander – you attack all of them." (SA, 2018) Some critics imply that the IWC's Moratorium and activist behaviour from outside is akin to "[…] an imperialistic infringement of sovereignty by industrialized, urbanized countries, and English-speaking countries." (Higham, Bejder, & Williams, 2014, p. 9) And indeed it is – the effect of a globalised system with globalised values, which had arrived in Iceland in full force.

Despite an increased number of people now identifying with such organisations in Iceland, the interesting fact is that the majority of them are not actually from Iceland. In fact, all interviewed people participating in such groups were from countries with no recent whaling backgrounds, who live in Iceland only to work or study. They are non-Icelandic, young, urban, but with a certain conception of nature and a high education – falling into the same category as vegans and tourists. Indeed, most anti-whaling activists in Iceland have also adopted a plant-based diet. Even though there are different groups for different purposes, "everybody participates in everything, it's the same people in AV [Anonymous for the Voiceless], the same people in Animal Save, the same people in Sea Shepherd." (SA, 2018) They organise protests, like an Anonymous for the Voiceless "cube of truth" and a "virtual" every week at tourist hotspots like the main shopping street Laugavegur in Reykjavík. They even plan to start "disruptions" (speaking out in restaurants, or grocery stores that stock animal products) in order to inform and educate people, usually with a focus on spots with a lot of tourists. It is therefore mostly tourists who engage with them, and not Icelanders, "which I believe depends partly on the fact that when people are travelling, they're more open-minded, they're more open to new ideas, to get to know new things." (ibid.)

These foreign activists often refer to Icelanders as closed-off, naïve or unaware. "The Icelanders are going to tell you 'no it is Icelandic', because they don't even know. If you are involved in activism, if you are from Sea Shepherd, Greenpeace, WWF, Amnesty, you know everything that is happening. In the newspaper it is very bad news for Icelanders and their tourism, so they don't want to know." (Anon. Int., 2018) "Not even the Icelanders are aware of what happens." (SA, 2018) Foreign activists make statements about whale meat, such as that it is not traditional, in much the same way as the international media. This is not to be underestimated, as of the 356,991 people in Iceland (on January 1st, 2019) approximately 15% are foreign-born.

(Seðlabanki Íslands, 2019, pp. 8-9). Of the participating Icelanders, "it's mostly young Icelanders that engage in meaningful conversations with us and that they are willing to get informed and change, so I think that the young generations are going to change much faster." (SA, 2018) But they also think that "they are very afraid of threats, but for people that were foreigners, we are used to activism and things like that – it's okay for us to fight." (Anon. Int., 2018)

In order to reach more Icelanders and gain more acceptance in the country, more Icelanders are needed in their organisations. "We [foreign activists] decided to create something for Icelanders because we are just foreigners. Something that they can build and it is going to be Icelandic and they are going to be proud of it. That's why we created 'Reykjavík Whale Save'. It's important that the Icelanders are the head of it. Same with Sea Shepherd Iceland, the president has to be an Icelander. I told them, I can't run it, I'm not Icelandic. I can't run it – we need an Icelander." (JL, 2018)

Environmental groups are of course a central point in the superstructure regarding this issue. They use different kinds of media to convey a specific attitude. This attitude includes a certain template of what is wrong and what is right, encompassing their own behaviour but also the behaviour of others. Even if you do not behave in the way that such groups wish, you have already absorbed the message that consuming plant-based food is good for you, the environment, and for animals, whereas other animal-based foods in contrast, above all whale meat, are bad. This ethical belief results in good and bad consciousness and is thus none other than the encouragement and discouragement of behavior through the superstructure. But the individual is unaware of this, as the "[…] conscience is but the screen upon which the unconscious factors of society and culture project themselves." (White, 1969 [1949], p. 158)

Education as an Individualistic Instrument

Another aspect employed especially often by activists is that every single person has a will and if they want, they can change the world. People want and need to believe that they have some sort of power and are therefore not determined. As one interviewee fittingly put it: "Things are gonna change. We need to think that we are changing them. […] We did a big change and maybe next year we are going to be able to stop it. I don't know, I wish, I really wish." (Anon. Int., 2018)

We recall the explanation that the social progress in Iceland was induced by international trade, modernisation and industrialisation. The fact that Iceland became part of the Western capitalistic world resulted in a high specialisation – and individualism. "Whereas the 'instrument' is the nation-state, the respective 'ideology' to those tools is humanism. At the

core of humanism is the individual human being. Religion just as humanism are adaptive ideological, superstructural features." (Begemann, 2016, p. 124) The general opinion now is that suddenly people, and especially younger ones, are becoming more aware of environmental and ethical issues, and because of this awareness, they change and with them the society – even the whole world. "I think people are becoming more aware of it. I think that now that we have reached that point, we don't need to use animals anymore. It takes older generations of Icelanders a long time to realise that times have changed. This is not a necessity anymore, this is just out of habit, convenience, and maybe some sense of entitlement." (SA, 2018)

Even though "Sea Shepherd is a big taboo in Iceland" (JL, 2018), following a long discussion in 2018, Sea Shepherd Iceland was formed. But with their ongoing reputation as a terrorist group, at least for the older population that witnessed the incident, they have tried to avoid the whale topic and focus on oceans and pollution in general. "As long as you explain people, you don't have to lecture them, you just have to explain. That's why I think for whaling, the best strategy is just to explain why we need to protect whales. And I was so surprised that they don't know anything about the ocean. And I was seeing from the children scale to the government scale. […] Because climate change is now the first threat on our planet, we want to insist on that. And that's what we are starting with Sea Shepherd. Starting this school campaign and trying to educate children and teenagers, because there is a huge lack of knowledge about the oceans in Iceland. At every level, from the children to the government. […] With Sea Shepherd we're planning to go into schools and educate children, educate teenagers about the problem, so that maybe the generation that is growing up now will be more active against whaling and for the protection of marine life and the oceans in general. […] They are on an island, they are surrounded by the oceans, they live because of the oceans. And I just want them to be aware of what they have and that they can protect it." (JL, 2018)

Education is a key aspect of this belief system. With individualism, in order to change the world you need people to become more aware. This means that you need to inform or educate people. "I just want them to be aware of what they have and can protect. […] I actually don't want to point fingers at people, I think it's better to educate people and try to fight together." (JL, 2018) This comes especially from foreign activists who want to educate Icelandic people. Icelanders, on the other hand, talked more about a sustainable use of resources: "We need [a] certain balance in the ocean. And that it can affect the fish, how much fish there is in the ocean. How much, how is the balance, how can we get the balance, keep the balance in the ocean, we have to, we need to respect the balance." (GHS, 2018)

In the end, people want to think that their behaviour has a meaning – that it has an effect. Through individualism they believe they are the source of change, whereas actually the opposite is the case – they are nothing more than a function of change. "I mean I can at least

feel that I'm contributing something to stop this. And it's as much of a therapy to me that it has been voluntary work." (SA, 2018) "When I'm on the streets doing outreach, I feel alive. I'm sharing my knowledge with someone who doesn't have it. And just make it more understandable for them [...] It just feels great. It's also very selfish but I just feel better when I see that what I know has a purpose. And the purpose is not publishing papers because it is not going to be read by people and right now we need people to be aware of stuff to change the world. [...] I still think we can change things. I believe in humans." (JL, 2018) But in fact, "[...] the individual is what his culture makes him. He is the utensil; the culture supplies the contents. Conscience is the instrument, the vehicle, of ethical conduct, not the cause." (White, 1969 [1949], p. 158)

Hence, non-Icelandic activists are trying to educate Icelandic people in order to end whaling. This set of beliefs, values and norms come from their own country, where whaling was never a necessity or part of the national diet. "But education is not a force or instrument outside of society, but a *process* within it". (White, 1969 [1949], p. 345) It is only the reflection of it. (ibid. p. 346) As education is part of the etic behavioural superstructure and therefore determined by the infrastructural and structural layer, it still is important for their sustainment and even enforcement, but only to some extent. "However, nutritional education has been far less effective than we would wish." (Pellett, 1987, p. 165) Ethical consumption is per se a comparably new Western concept and is defined as "the conscious and deliberate decision to make certain consumption choices due to personal moral beliefs and values" and includes "[...] concerns spanning from environmental protection, to animal welfare, to human and workers' rights." (Pezzini & Garðarsdóttir, 2012, p. 1)

Often, Icelanders are represented as living close to nature, who know the realities of food production and the struggle against a harsh nature in order to survive. "Many Icelanders, because they see themselves living closer to nature, consider themselves more rational and pragmatic when interacting with nature, less prone to sentimentalizing animals." (Brydon, 1996, p. 42) But the truth is that today nearly two thirds of the Icelandic population (62%) live in Reykjavík and the municipalities surrounding it (Seðlabanki Íslands, 2019, pp. 8-9) and are not closer to any farming or other natural resources than other urban Europeans.

Many of them nevertheless like to emphasise this closeness to nature, for example, this man who lives in Reykjavík: "People in London or New York are trying to tell us not to hunt it because they are so sentimental about it, [...] they don't really know how close we are to nature. We are much closer to nature than people in Oxford or downtown Manhattan. [...] But sometimes when people are very sentimental about the whale, also he is so bright and he is so cute and everything, but you kill bambi, little bambi. Why? [...] But when you're in a farm, you're isolated a lot, you have to slaughter the lamb that you like. You have to eat. And even

the horse that you like, gets old and then you have to eat it. Especially in the old days." (SU, 2018) Indeed, this was true for the old days prior to Iceland becoming a modern import-oriented country. This concept of the Icelandic population's relationship to nature is often used by people who make a living from this business.

In a similar way to the emic mental superstructure, an example of which being the ethical belief that whaling and consuming whale meat must be objected to on a moral basis, the etic behavioural superstructure fulfils its duty of reinforcing the infrastructural and structural progress, too. This has been demonstrated in this chapter through the use of literature, media and education. Activist groups, consisting mainly of foreigners who happen to be part of the same demographic group as tourists and vegans, use these factors for their strategy to convey attitudes from their countries, including what is morally wrong and right. But in the end, even they are only a function of their own social system, which includes their emic mental and etic behavioural superstructure and has been shaped through their socioeconomic developments for decades. Therefore, aspects like media, literature, education and even the activity of activism itself are merely a reflection of what is going on within a specific social system. Whereas the general attitude including ethics regarding whaling and whale meat in most Western countries is already quite defined and shared by the strong majority of the population, in Iceland, or to be more precise, amongst Icelanders, it is still a rather new and therefore unsettled issue. This is observable in the Icelandic media and literature, in contrast to the international media. The next chapter elaborates in greater detail the beliefs, values and norms shared by Icelanders today in regard to whale meat and whaling in general.

8.3 The Icelandic Point of View

"Clearly modes of production are not simple relations between people, things, and environment but include coordinated belief systems as well." (Plattner, 1989, p. 385) The emic mental superstructure of a system, which consists of ideologies, values, symbols, myths, aesthetic standards and philosophies, epistemologies, religion and taboos, play "vital system-maintaining roles" for the conservation of any social system. (Harris, 2001, p. 75) Whereas the etic behavioural superstructure (as we have seen now in the examples of media, literature, education and activistic activities) is a logical deduction and function of the structure, the emic mental part, or the "inside meaning", is not always determined by these traits. It deals with the way in which members of a society experience and describe their world and includes the perceptions and understandings of insiders, i.e. what is meaningful to them on an individual

level. Therefore, this chapter is dedicated to the views of Icelanders on the issue of whaling and whale meat.

The Emic Mental Superstructure in Iceland

"Newly added cultural elements do not enter a vacuum, but rather a dialogue with already existing local forms and meanings of the local population." (Schuerkens, 2017, p. 27) These substances are taken up and enter into pre-existing social contexts. (Mintz, 1985, p. 6) The "new" is imported and adapted, and hybrid forms are created. As goods incorporate meanings, transferred products are also accompanied by ideologies, which may be accepted. Alternatively, new meanings are created in the new context. (Dabringer, 2009, pp. 20-21) But this can only be done in accordance with the underlying structural and infrastructural circumstances. As the infrastructure in Iceland has changed and continues to change, certain ideologies rooted in the outside world accompanied these changes and are gaining wider acceptance. But the pre-existing contexts should not be overlooked.

"I know it is a subject that still divides Icelanders." (SA, 2018) All Icelanders who shared their insights for this thesis (which is of course not representative of the whole population) had rather neutral or anti-whaling feelings, apart from those who made their living from it. But even though most Icelanders seem to increasingly oppose whaling on the basis that it is "unethical", some still eat it at least once a year at *Þorrablót*. These are mostly older people. Icelandic people usually understand the meaning whales had in their past, and do not actively participate in anti-whaling movements and actions. "I'm not a fan of the whale hunting and things like that, but it's not a hot topic for me. And my friends they wouldn't go out to the streets and hold some posters. It's not a big thing. We don't see it from the same viewpoint as many other countries. I feel it's a much hotter topic with these people [foreigners] than it is with me." (SG, 2018) This shows that Icelanders for the most part already oppose whaling, but simply not enough to become more active.

Most Icelanders are actually not well-informed about the current whaling situation, but they do have certain assumptions which they believe are true. One reason for this is probably the national media and even more so the international media, which is also available through social media, mixing up facts. For example, the Whale and Dolphin Conservation published the following: "In 2008, whaling company owner, Kristján Loftsson, announced that he had exported some 60 tons of fin whale meat to Japan. Currently, a dead minke whale fetches around 10,500 USD in Iceland, down from 13,000 USD two years ago. In contrast to the economic and political liability represented by whaling in Iceland, whale watching is actually valuable to the Icelandic economy." (Whale and Dolphin Conservation, 2018) Such posts are

misleading, as they insinuate that Kristján Loftsson is responsible for both fin and minke whaling. Even though there are two whaling companies – one for minke whales and one for fin whales – the majority of the Icelanders interviewed believed there was only one. In contrast to the director of the minke whaling company IP Útgerð Gunnar Bergmann Jónsson, the director of the fin whaling company Hvalur H/F Kristján Loftsson is often in the public eye and therefore extremely controversial. There are certain recurring stories about him as a person that are used to condemn whaling in general: "Icelanders are divided when it comes to whaling per se, but I think that you're aware of the fact that there is just one billionaire psychopath that is running that industry here." (SA, 2018) "People call him the 'Icelandic Trump'. He is this kind of guy with a big ego." (JL, 2018)

Environmental organisations emphasise the point that whale meat is not traditional in Iceland, which is now widely accepted, and say that the whale meat available in Iceland is imported. "It is actually not Icelandic. It is Norwegian. It's a lie. I don't even know how this is allowed. Because they are not supposed to lie on what you are selling, especially when it's food, to people. Saying that it's an Icelandic traditional dish, and it's not Icelandic whale meat." (JL, 2018) "So the whale meat that we consume, comes from Norway. All the whales that they kill here, that these guys kill here, all of that food is sent to Japan for dog food." (Anon. Int., 2018) This again is a mix-up of facts, because fin whale meat in the form of *súrhvalur*, which is only sold in Iceland, is also only produced in Iceland, whereas minke whales are apparently indeed imported from Norway to some extent.

As previously pointed out, Icelanders mostly do not consume whale meat anymore. But of course, there are people who claim the opposite, at least those in the business. "People like it. That's why we are selling it. If people wouldn't like it, they wouldn't buy it. But *rengi* [fin whale blubber] is very popular, they are really after that." (KL, 2018) They usually share the opinion that the future of whaling is not in danger, especially now that it has been stated that the stock of whales is no longer in danger. "We will keep doing, which is maybe to hunt 150 to 200 whales a year and export some and do some more research with the pharmaceutical companies." (ibid.) Still, Kristján Loftsson has indicated that it would continue for "at least the next 10 years", himself implying that the end of whaling is coming at some point. Concerning activists, "we [pro-whalers] call it the anti-everything. They are against everything. But they are not so many people against it, there are just loud people who do. It's a business, being against everything. This anti-everything movement. Just name it, they are against everything. It's a political movement, this vegan method, they are against everything […] Why don't they mind their own business?" (KL, 2018) It seems as though this is true for both sides. While the anti-whalers as well as the pro-whalers both hold very strong opinions, the majority of Icelanders seems to be somewhere between the two. Even though more and more object it, they at least

behave in quite a neutral way: while they do not protest against it, they simply do not consume it anymore.

On the Example of One Controversy

During the whaling season of 2018, two hybrids of fin whale and blue whale origin were caught. Hybrids are very rare and much about them is still unknown. One possibility is that it is a form of adaptation in response to the decreasing number of potential mating partners that are similar in size, but too little is known. Marine biologists point out the importance of learning more about them in order to understand how these two species are interacting. This leads to the fact that "they are even rarer than blue whales." (JL, 2018) There is no place on earth where blue whales are not strictly forbidden to be hunted. The first blue-whale-fin-whale hybrid caught in Iceland was observed by Sea Shepherd U.K., who took pictures of the event, followed by 17 scientists that signed a letter to the Icelandic government saying that phenotypically it is a blue whale, and demanded an investigation including a DNA test. Although the DNA test proved the fact that it was indeed a hybrid form and not a pure blue whale, from the appearance alone this could not have been concluded, which opens the questions why it was hunted in the first place. Generally, during an investigation the company is prohibited from hunting any other whales, but Hvalur H/F continued going on whale-hunts and the government did not put a stop to it. The second hybrid caught was phenotypically a hybrid, which means it had characteristics of both fin and blue whales. In regard to hunting hybrids, nothing is specified in the law – only that their meat is not authorised to be exported. (JL, 2018) According to the director Kristján Loftsson, they had about seven hybrids over the last years. He indicated that they "[…] process them like the others. We have to get rid of it, you know." (KL, 2018) For him and his crew, they look like fin whales on the back, with only the colours underneath being different. This is not observable from the surface. The fat is different in some way too. At the time of the interview in the winter of 2018, i.e. half a year after they were shot, the two hybrids were still in their warehouse in Iceland as they are not allowed to export the meat. Kristján Loftsson eventually confirmed his plan to sell the meat in Iceland. "Maybe we should label it as a hybrid – [it] would sell much faster. Out of curiosity. But no, no, there is no difference." (KL, 2018)

This incident was a huge story in the media in Iceland as well as in international media. Pictures of the hybrids were used to promote an overall anti-whaling feeling in Iceland and the rest of the Western world. According to some, due to the 1980s ban on whaling traditions came to a halt, which resulted in today's hunters not having the same knowledge and experience as before and causing such mistakes to happen more often. (TK, 2018) Many see them as brutal hunters without any idea what they are doing. "They are this kind of hunters that are killing

any birds flying in the sky and [here] it's the same. If they see a big thing, they shoot. […] It was a big question of maybe you hunted a blue whale, which is almost a crime – at least a crime for me." (JL, 2018) Many also believed the hybrids were indeed blue whales and still believe it. "He killed a blue whale – by 'accident'." (Anon. Int., 2018) Other shocking pictures taken by Sea Shepherd and published in the media were those of caught pregnant whales with their dead offspring. "There were also a lot of pictures from Sea Shepherd again with the babies because every time they were opening the bellies, they were taking the babies away." (JL, 2018) "They killed a pregnant fin whale. And they recorded on video how they removed the dead foetus inside the whale." (Anon. Int., 2018)

One of the interviewees also believed Kristján Loftsson owned the only whaling company in Iceland, even though her own father was a whaler before the Moratorium. "Kristján who has now the company pays the right-wing government. As a thank you, they rose his fishing quota and now also can hunt fin whale. His reputation in Iceland is very bad as a profit-oriented capitalist." (TK, 2018) The belief that he is the only whaler in Iceland and that he has agreements with the Icelandic and even other governments is very persistent amongst the population. "Here is one big whaling company that exports to Japan and has friends in the government. He has a lot of money and the government is very bad. Kristján is not very popular with most people in Iceland because of his way of handling business." (Anon. Int., 2018) Another said, "[t]here is this guy, he has a lot of money, he is an Icelandic rich guy. […] He started to have a deal with the Japanese and our friend Donald Trump." (Anon. Int., 2018) All this shows the morals behind the developments.

People know that minke as well as fin whales are hunted; they therefore also believe that he hunts both species. Furthermore, the assumption that Loftsson still hunts a high number of whales despite there being no demand is persistent, too. "The first year, he killed so many fin whales and minke whales, that he had to throw all the meat to the ocean back, because he wasn't able to sell it at that time. […] And this guy in here, had allowed to kill 180 or 190 fin whales, and I think he had like a bigger amount of minkes." (Anon. Int., 2018) „I think he has about 3,000 whales in his storage." (AG, 2018) "The very annoying part is that they are losing money. And this guy has been losing money in the whaling industry for years now because he can't sell the meat, he knows that. Everyone knows that." (JL, 2018) "They couldn't sell the meat from 2015. I think it is still waiting in the fridge in Japan in the harbour, in the international area." (Anon. Int., 2018) "There is a lot of meat, frozen in Hvalfjörður, that people don't consume." (Anon. Int., 2018) "The last time they hunt fin whales it was in 2015, so Kristján Loftsson, the director of Hvalur H/F, he said himself that he had to throw away 90% of the meat, because he couldn't sell it. And he is still hunting." (JL, 2018) In fact, Kristján Loftsson does not hunt nor store any minke whales, and 2015 was not the last time he hunted

(fin) whales. But there is some truth to be found here, as it has become public that Loftsson has had difficulty selling and exporting the meat, and much about the use of the meat is simply unknown.

For many locals, he is the only reason why whales are still hunted. “The main company is a guy that is an old gentleman. When he dies, I think it’s gonna go.” (GHS, 2018) And the reason for it is a personal one, as the business is not lucrative. “He doesn’t want people to tell him what to do. […] He just doesn’t want to accept that he has to end it. It was in the family, his father taught him how to do it, so it’s also something I think he owes to his father. I’ve never talked to the guy, but for sure he is not stupid. But I think he has a very big ego, and he just doesn’t want to do what he has been told to do. […] Because Kristján Loftsson was so mad that he wants his revenge, he will never stop. Because of that. They don’t make money. They are just killing whales for nothing.” (Anon. Int., 2018) “So as long as he can do it, he will do it, even if he loses money and he is losing money. In Iceland, it doesn’t make any sense. They don’t make money.” (ibid.) But even though the undertaking of whaling is not lucrative, one fact that should not be forgotten is that he also owns shares of Iceland’s biggest fishing company. Therefore, one can also conclude that, even though he is not making profit from whaling, he probably does so via his fishery activities and the effect that hunting whales has on these activities.

The viewpoints Icelanders share on this topic (the emic mental superstructure) are mainly based on misinformation through media and activists, as we have pointed out in the previous chapter. This has had an impact on their opinion, which has resulted in an increased opposition to whaling because of moral convictions. The scapegoat for all of this is Kristján Loftsson, who is seen as a rich and corrupt businessman hunting both fin and minke whales, even blue and pregnant whales, out of purely personal rather than economic reasons, and as there is no demand, he either throws the meat away, stores it in large quantities or exports it as dog food. Despite these beliefs, foreigners are still more active concerning anti-whaling and veganism, and are likely to blame Icelanders. Though Icelanders’ perception is also becoming more similar to this stance, people are still more reserved and passive. Nevertheless, regarding a radical decrease in whale meat and an increase in plant-based products, they have also adapted a viewpoint that whale meat is morally objectionable. In contrast to foreigners who blame Icelanders, Icelanders often blame tourists.

8.4 Feedback Loops and General Progress

In the end, "[…] material conditions, social structures, and cultural superstructures are in constant interaction." (Elwell, 2013, pp. 21-22) For a social system, non-material conditions are equally as important as demo-techno-econo-environmental ones, and cannot be considered in isolation from one another. There are interconnections between them that support and even reinforce certain structures. Superstructural features, such as values, rules and beliefs, therefore play an important role in a society's stability. "Hence, to sustain a sociocultural system, to make it *function*, it is of key importance to promote its core principles, translated into values, beliefs […]." (Begemann, 2016, p. 86) It is through so-called "feedback loops" that positive feedback in the form of superstructural aspects makes its way to the structural and infrastructural layers, making this system a self-reinforcing chain of cause and effect. This means that sociocultural change also does not only follow one direction, and superstructure is therefore not simply a logical consequence of infrastructural and structural components. "Structural and superstructural commitments appear to shape the final outcome through negative and positive feedback process." (Harris, 2001, p. 75)

The structure of a society receives ideological support through values, norms and beliefs, which justify and encourage behaviour in each of the three components of a society. "[…] [T]he entire etic conjunction is functionally dependent on ideological commitments to values and goals that enhance cooperation and/or minimize the costs of maintaining order and an efficient level of productive and reproductive inputs." (Harris, 2001, p. 72) Cultural traits which do not match new infrastructural and structural realities must be reinterpreted, unless they cannot be modified, in which case they are abandoned. "Cultural elements can be critical in the struggle to garner support in movements to promote or extinguish infrastructural and structural changes; they can also be important in dampening or reinforcing the speed of such change." (Elwell, 2013, p. 164) This means that the emic mental superstructure is not only an effect but also a functional support.

Reinforcing Features in Iceland

"Changes in emic valuations change major foodways, but only when such changes are favored by infrastructural condition." (Ross & Harris, 1987, pp. 5-6) Thus, the emic superstructure, or "inside meanings", arise in consideration of the given "outside meanings", or the behavioural infrastructure. Such values, norms and beliefs, like people's gradually increasing disapproval of whaling and whale meat on the grounds of ethical principles, are not only influenced by infrastructural and also behavioural superstructural factors, e.g. media and education, but at

the same time further enhance them. And by doing so they reinforce all the other components, structures and developments of the society.

A very influential aspect of today's values, norms and beliefs, i.e. the superstructure of a society, is ethics. In contrast to the belief that something should not be eaten because of a deity's ruling, nowadays it is widely communicated that something should not be eaten because it is morally objectionable. This understanding that behaviours are either morally correct or wrong is pushed world-wide by the influence of specific Western structures. Not only does globalisation lead to a homogenisation of the world in regard to production and consumption patterns, i.e. factors on the infrastructural level, but as these components incorporate specific structures and ideas, they will also lead to a homogenisation of the superstructure, including belief systems, ideologies and philosophies – just like ethics. In this, (social) media and other etic behavioural superstructural features play a vital role.

Iceland has been subject to foreign influences since the end of the 19th century, with the onset of international trade and the ongoing process. This was made even more rapid with the U.S. occupation, when not only a wide range of products became available, but also a wide range of new ideas that were being conveyed equally fast. We have also seen how patterns with a less advantageous benefit-cost balance are ignored and can even lead to restrictions - for example when whaling became less efficient in Western countries and led to the IWC Moratorium. It then developed into a general idea that it is immoral to hunt whales, which was conveyed through the media and activist groups, and influenced the perception of each and every person. In Iceland, in contrast to other Western societies, this topic was more complicated, as whales had purposes other than oil extraction. Still, with all the new production mechanisms and the increasingly important role of other economic sectors, whaling has become increasingly obsolete in the past decades. This trend was only paused (not stopped) through one event - the financial crisis. The general trend has turned unmistakably towards more plant-based production and consumption, as this has become the most effective way to feed a global population. This has also become apparent in the way in which plant-based diets and in general a sustainable form of consumption is becoming the morally "correct" lifestyle, implying that everything else is "wrong". This only gives further stimulation for production mechanisms, which leads to a further global increase. In Iceland, globalisation processes, including tourism, and increased foreign influence, not only in regard to consumption patterns but also ideas, in this case specifically ethics, are the most visible developments on the island. All these new cultural traits have further implications for Iceland's modes of production, including whales and the surrounding activities.

Even though the government authorised another whaling season in February 2019 – granting permission to hunt fin and minke whales until 2023 with an annual quota of 209 fin and 217 minke whales – the last time whales were caught in Iceland was in 2018. There was also no whaling for research purposes, which was confirmed by the Marine Institute. According to the director of the minke whaling company, Gunnar Bergmann Jónsson, it is becoming necessary to travel farther from the coast, which increases the costs as more staff, fuel and time are needed. He did not explain the reason, but it is probably because of the protected area around the coast for whale-watching operations. It is simply becoming too costly to go hunting for the waning local demand. He therefore indeed imports Norwegian whale meat, but the origin of the meat is not indicated on the package. (Wallace, 2019)

In regard to fin whale hunting, the official reason given for the discontinuation was that the announcement in February 2019 did not allow enough time for preparation to complete the necessary maintenance. But he also admitted that the Japanese market, where most of Hvalur H/F's fin whale catch is exported, has not been profitable enough to make whaling worthwhile. In 2019, Japan started commercial whaling again. Japan's resumption seems like a setback, with some seeing it as the beginning of the end. Instead of scientific whaling in the north and south Pacific, they now only hunt within the 200 miles zone of the Japanese coast. And hunting only 227 whales is not profitable. From 200,000 tons of whale meat consumption in the 1960s, it is now down to 4,000 tons a year, which is 40 grams of whale per person. The reason for the resumption of Japanese commercial whaling was more important as part of a political strategy to gain conservative and nationalistic votes. For Patrick Ramage from International Fund for Animal Welfare, the development in Japan is positive and in fact "[…] helps the whales, the marine protection and Japan." (Der Standard, 2019) "Kjarninn.is", a local Icelandic news site, acquired the financial statements of Hvalur H/F, showing that revenues from the sale of whale products in 2014 were around one billion ISK, while the cost of these operations was over two billion. They therefore generated around a billion ISK in losses (6.8 million EUR). In 2013, the loss was 600 million ISK (4.1 million EUR). But despite this, they made a profit of three billion ISK (20.5 million EUR) due to their ownership of investment company Vogun H/F, which owns a share of Iceland's giant fishing company HB Grandi. (Iceland Magazine, 2020 / Kjarninn, 2020) Appartenly, Loftsson personally subsidises his fin whale hunt by transferring profits from HB Grandi. (Cunningham, Huijbens, & Wearing, 2012, p. 149)

Whale meat is nowadays one of the cheapest meats available. For example, the Icelandic restaurant Þrír Frakkar offers "Whale pepper steak with pepper sauce (*Langreið* – Fin whale)" costing 5,690 ISK, which is approximately the same as cod (5,490 ISK), monk fish (5,650 ISK), halibut (5,850 ISK) and wild seabird "Guillemot" (5,690 ISK) on their menu. Lamb and horse

tenderloin were more expensive, costing 6,250 ISK. The restaurant Sæta Svíníð offers minke whale meat under the category "small courses", where it was the cheapest dish (2,590 ISK) containing fish or meat: Horse carpaccio was 2,690 ISK, beef spears 2,790 ISK, seafood soup 2,890 ISK, and Icelandic char 2,990 ISK. Only vegetarian dishes were cheaper. In addition, whale meat is also becoming harder to find. "Before, it was common to buy frozen whale steak in grocery stores, but now there is less of it or even no available whale meat in stores at all." (Anon. Int., 2018) In the year 2017, the food store chain Samkaup sold a total of 259kg in 48 stores. "The sales are almost disappearing", states the head of trading. (SG, 2018) According to him, as of the late 1990s, there has been no whale meat in the assortment. "Ten years ago, we used to sell it fresh for a period of two years or something like that" (ibid.), which coincides with the time after the financial crisis. But since then, it has only been sold frozen, "[…] because you can imagine what the reason is. Going with a product that is sold fresh to sold frozen is because the sales in the fresh is too small to argue that it can be fresh. […] We were throwing away probably more than half, as it had too short of a lifetime and too little sales." (ibid.) Kristján Loftsson affirmed that every part of a caught whale gets frozen. (KL, 2018) In the end, "we can say we sell it, but it doesn't sell." (SG, 2018)

Statistics on the percentage of Icelanders eating whale meat and how this has changed are difficult to find. Research is usually conducted by anti-whaling organisations with no indication whether the data is representative or not. The polls used most often are either conducted or commissioned by the International Fund for Animal Welfare (IFAW). Big headlines, like the fact that only 1.1% of households in Iceland consume whale meat on a weekly basis, are misleading, as whale meat is not seen as an everyday food in Iceland and never has been. But a Gallup poll indicated that in 2016, 81% of Icelanders had not bought any whale meat in the previous twelve months, and "[…] only 3.2% of [Iceland's] population eats whale meat on a regular basis (defined as six times a year or more) and even fewer (1.7%) eat whale meat at least once a month." (Vargas, 2018) "There is no market for the meat. We shouldn't be killing whales in the Icelandic ocean and having to export it and pollute with the transport because the only market buying the meat is Japan. So why should we be hunting whales in Iceland, preparing the meat, getting the meat into a big tanker that then pollutes the earth while going all this way with the meat?" (SG, 2018)

Of course, people that are profiting from the business, such as whalers and fishers, intend to increase sales. "I think they are trying to build up a market for it, when there is not really that much demand for it here." (Anon. Int., 2018) This was especially observable when whale beer was brought onto the market for *Þorrablót*. This special brew included sour whale testicles and did not become a success. (AG, 2018) Many Icelanders actually say that they do not know anyone who eats whale meat today. "I really have the impression that most people are against

it." (SA, 2018) "I think there are many viewpoints on that but all in all, there are more people against it than with it, much more – a growing number." (SG, 2018)

Today, only 14 Samkaup stores out of 60 sell whale meat. They still sell it "because there is a market, a very small market. There are some people who buy it." (SG, 2018) After all, tourists still try whale meat, thus a demand is still here – and even this is rapidly decreasing. Not only do some tourists try whale meat, but the infrastructure that brought them here has also brought other products. This is globalisation working hand in hand with homogenisation. Tourists are reinforcing the trend away from whale-meat and toward a more plant-based, as they have a vital role in demand and supply. Though some of them may still try a piece of whale meat, it is simply not comparable to the number of new products they bring. This trend toward a more plant-based diet in Iceland is visible to everyone – those who want to see it and those who don't. Thus, "something is happening in Iceland and very fast […] I really could feel that something changed." (JL, 2018)

People believe that a more plant-based consumption is reasonable because of their ethical beliefs in regard to animals and the environment, whereas whaling and whale meat represents the opposite value. But the decline in tourists willing to try it is connected to the importance of sustainable development. And finally, according to the latest statistics, tourism in Iceland is also in decline for the first time ever, as can be seen in the following figures: from 209,000 tourists in May 2018, down to 173,000 tourists in May 2019, and from 488,000 during the second quarter of 2018, down to 390,000. In general, the number of tourists in Iceland has experienced a 15% decline, bringing it back to the levels of 2017. (Statistics Iceland, 2020) With the further decrease in tourist demand for whale meat, the only people left in Iceland who consume whale meat are dwindling, too. But it is not yet clear how this affects other parts of the society: whether or not tourism will keep its place as the number one factor in the nation's GDP, and whether import rates and the consumption of plant-based food items will stay high. These developments will only be shown in the next years, especially when considering the impacts of the pandemic for Iceland and its economy, as it resulted in a halt to tourism. But one thing can be said, Iceland is now not only part of a modern world, but also a globalised one. This trend will not stop, it will only enhance.

> "On the one hand, food preferences, once established, are usually deeply resistant to change. […] Such deeply cherished tastes are rooted in underlying economic and social conditions, and they are surely far more than simply nutritive. But they must also be viewed in terms of the equally telling fact that some preferences, even in diet, turn out in fact to be quite readily surrendered. To be sure, it is far more common to add new foods to one's diet than it is to forgo old and familiar ones." (Mintz, 1996, p. 24)

Elements that were once vital in a social system, like whale meat, become obsolete, when more cost-efficient elements become available, although this is not a simple process. This trend, which is supported and reinforced through ideational aspects, is especially visible in the young, urban and educated population, who are also the group of people globally connected through various forms of media and who consider wildlife only to look at and admire, instead of utilising it as a resource. Many already consider this to be the „Post-Whaling Era". In this light, "[…] the future seems bright and plentiful for the vegan community of Iceland." (Stefánsson, 2015, p. 69)

All these socioeconomic and even ecological processes that have been elaborated throughout this paper are changing the way people understand their reality. These new ideas, values, norms and beliefs are reinforcing trends in the form of feedback loops. As one interviewee put fittingly, "it's really a good example of how people change their behaviour in terms of their cooking habits and the way they look at these things." (SG, 2018)

With all these processes taking place – not only the infrastructural but also superstructural – specific structures arise while others disappear. In Iceland, sales of whale meat to Icelanders and foreigners alike are now dwindling, along with the availability of whale meat in general. Together with increased costs of whaling operations, whaling has become an undertaking that is not profitable and must be subsidised in order to continue to grow. But as we have seen, it is not growing. It has steadily declined and ceased entirely in the past two years. The overall trend is clear. Even if whaling were to be resumed, it is simply not cost-benefit efficient enough to keep it alive in the long run. "I think it's very clear that it's just a question of time and whaling will stop." (GHS, 2018) And a certain international conception of ethics has not been insignificant in these developments.

9 Conclusion

Let us now revisit our initial question: *How does a social system, including its individual members, adapt to radical changes, and what roles do food and ideologies play in this?*

Human beings, just like social systems, have always experienced change. To deal with constantly appearing changes, and to perpetuate the life of the individual as well as the collective, we have to find an adequate response. Culture in the form of cultural adaptation, as opposed to biological or genetic adaptation, serves the purpose for humans as the most rapid and efficient method of response to changes, and is available to humans and only humans. It is via the infrastructure of a social system, consisting of production and reproduction mechanisms, that we deal with the natural conditions that are present, as well as changes. This specific method of tackling nature further results in specific forms of social organisation, which in turn shape ideational elements like norms, values and beliefs that finally provide the required support and reinforcement through feedback loops.

In this context, food items and habits are a central factor that are often subject to change, as they belong to both the natural and cultural realm. In general, edibles are only used as food when they offer the best cost/benefit-balance. Certain changes require this balance to be optimised, which means that specific items are selected, while others are ignored. Food preferences are therefore not arbitrary, as they serve to optimise the diet in the most efficient way and are ultimately encouraged through the superstructural layer of a social system – the secular and religious ideologies and values. It is through this instance that behaviours, including those in regard to food, are endowed with (new) meanings.

By focussing on the example of Iceland we were able to demonstrate how a sociocultural system as a whole as well as its individual members adapt to changes of both ecologic and economic origin. With the harsh climate and landscape, the accompanying scarcity of natural resources, and the additional isolation from world development including foreign exchange, Icelandic foodways were shaped insofar as they lived off what they had access to – mostly animal products from the waters in and around Iceland and the livestock brought by the first settlers. As one interviewee said, “Iceland would not be here without the consumption and use of animals.” (SA, 2018). One important resource were whales, especially when they were beached.

But with the end of the 19th century and the lift in trade restrictions, the door to modernisation was finally opened, which led not only to the availability of new products, but to a whole societal transformation, from subsistence-based economy to a modern industrial economy based on import and export. This trend was further intensified with the Second World War and

the occupation and resulting influence by the U.K. and U.S. Iceland's mode of production, in other words its infrastructural layer, quickly changed, and with it the national consumption patterns, shifting from the former animal-based diet to the more efficient and nutritionally more valuable modern Western diet that also included grains. As previously mentioned, all components of a system interact with each other, leading to the fact that other parts are subject to change too. With general population growth, the urban population increasingly came to rely upon purchasing foods, rather than household production and consumption. This social progress turned the island, which had finally gained independence, into a capitalistic and highly specialised and individualised nation. Cultural elements like media, music, dance and so on, which are part of the etic behavioural superstructure, made their way to Iceland too. All these developments ultimately resulted in new values, norms and beliefs which were adapted to Western standards.

With the rise of modernisation, small-scale subsistence whaling activity also changed to modern industrialised whaling, with the particular goal of the extraction of oil. The whaling activities of foreign companies resulted in a significant decline in whales in Icelandic waters in the late 19th and early 20th century. With further technological progress and new alternatives to whale oil, international commercial whaling eventually lost its economic profitability and was consequently abolished. This resulted in a new image of whales, transforming the whale from a resource into a symbol of nature that we have a moral obligation to protect. This shows the function of the superstructure as a supportive power of the existing structures. Nevertheless, whales and whaling still had an economic purpose in Iceland due to the fact that the most important economic sector, fisheries, profited from a decreased number of whales. But moral and economic pressures from other nations and the subsequent international whaling ban led Iceland to quit commercial whaling, although they introduced scientific whaling shortly thereafter.

Other radical changes came about in October 2008, when the financial system collapsed. The severe economic depression caused taxes to increase, real wages and work volumes to decrease and a drop in the Icelandic living standard. Changes in the modes of production were once again noticeable in the population growth, which suddenly became negative. The financial crisis and the eruption of the Eyjafjallajökull volcano resulted in decreased import and export rates, highlighting the risks in such a strong dependency on international trade. Therefore, people had no other choice than to turn back to a more traditional diet based on what was available to them. Along with a shift toward national products, including whale meat, food preparation methods also changed, and a preference for home-cooked foods could be observed. This trend was also seen in the modes of production, as not only the number of caught whales increased, but also the number of the national livestock and quantity of agricultural land.

People also started to grow their own vegetables and herbs again. This shows the rapid cultural adaptation as a response to economic and ecologic changes and reinforced by the mental and behavioural superstructure, as national, traditional, home-grown and home-cooked foodstuffs were considered as "good" behaviour and depicted in this manner in the media and literature.

Shortly afterwards, everything changed again when the tourism sector grew rapidly and helped the nation to overcome the crises, even replacing the fisheries to become the largest sector in Iceland's economy. Like the other developments, the tourism boom also came with wide-ranging consequences, including population growth, inter alia, through the increase of work immigrants, and a new function of whales. Even though the fishing rents, which is still one of the main economic pillars, increase with whaling activity, and many tourists are indeed willing to try whale meat, the economic relevance of both is decreasing. Meanwhile, tourism and especially ecotourism, is dependent on Iceland's international reputation, and entails the more profitable industry of whale-watching, which is disrupted by ongoing whaling activities. On top of all this, whales also represent an increasingly important ecological value. As everything is about cost-benefit optimisation, all these factors (and more besides) combine to establish the best practices.

To deal with rising global challenges such as pressures in reproduction or climate change, we must again find new forms of adaptation. Taking into consideration nutritional intake and GHG emissions, the most efficient diet today is a (more) plant-based diet. This trend is visible throughout Western countries, especially with the rise of veganism as a form of sustainable consumption. In Iceland, increased international interaction, or globalisation, can be felt especially through the high number of mainly young, Western and educated nature-lovers, and has resulted in a rise in plant-based products and diets. The availability of more cost-efficient elements ultimately makes other less beneficial elements, like whale meat, obsolete. Although centuries long a vital element for survival, especially for the poorer coastal population, it is now only consumed at specific events, like *þorrablót*. But even here the traditional pickled blubber is usually not eaten by the younger population, showing not just an urban-rural but also a generational difference. Even though whale meat was on the menu again for a short period of time during the financial crisis, it was preferred in the form of steak, using more modern preparation methods. However, with the rise of sustainable production and consumption, popularity is radically decreasing again.

In order to encourage new more cost-efficient behaviour and discourage the "old", ideational aspects come into play. Today's ethics can be understood as a belief system that discourages certain behaviours, like the hunting and consumption of whales, and encourages others, like sustainable lifestyles. This becomes apparent with the shift of the whale's function in Iceland – the less relevant whaling and whale meat becomes for the economic system, the higher the

ideological opposition. In Western countries which have long seen no benefits from whaling, the general attitude regarding the topic is already clear, whereas in Iceland it is certainly not. As well as the emic mental superstructure, i.e. ethical conceptions, the etic behavioural superstructure also fulfils its purpose of reinforcing the infrastructural and structural progress. This is done through media, literature, education and activism, especially by foreigners, which merely reflects what is going on inside a specific social system. All these processes have resulted in an increasing opposition to whaling, for which Kristján Loftsson, the director of the fin whaling company, serves as the immoral scapegoat. Even though the many foreigners are still more active concerning anti-whaling and sustainable or ethical consumption, Icelanders are increasingly adopting a viewpoint that whale meat is morally objectionable. They are simply more reserved and passive about it. And through this ideological support of the infrastructural and structural circumstances, the system is not only sustained but reinforced.

Today, sales and availability of whale meat are decreasing, while the costs for hunting are increasing. As the cost-benefit balance of whale meat has changed, especially due to the availability of more cost-efficient alternatives, it will soon come to an end. Or as one interviewee put it: "I think it's only a matter of time." (GHS, 2018)

Changes in a sociocultural system or available resources, due to either environmental or socioeconomic transformation, are always accompanied by changes in behaviours and even changes in the thoughts of the affected people. As some of these developments occur on a global scale, like modernisation, globalisation or climate change, new norms and with them new meanings spread internationally. As a consequence of all these processes, specific structures arise while others disappear. And this not only includes production mechanisms, but food habits and ideological conceptions, too.

With all this information in mind, let us now once again consider the quotation with which we started this thesis:

> "I think we should eat what we have in Iceland. We were isolated for so many hundreds of years – that's why we still speak the old Viking language. We just had to manage to live off what we have. We eat the birds and we eat the fish and we eat of course the whale, *hvalreki*, and the small whales. We live from what we have around us. We don't have so much – fruits and stuff. But what we have, we respect in our surroundings." (SU, 2018)

In the end, we can say that everything has changed – but at the same time it has not. We are at the exact same point at which we started. People live from what they have around them. They eat what they have. The only thing that is constantly changing is what they have.

10 Methods and Data

Culture is the ultimate feature that makes us more than animals – it is what makes us human. In addition to this, it is also what makes an accumulation of humans a society. Social and cultural anthropology is hence about everything that is part of the cultural (or superorganic) realm – in contrast to the natural (organic or inorganic). It is about the understanding and explanation of traits in this realm.

A Combination of Disciplines

To achieve such an understanding and explanation of culture, it is of absolute necessity that we combine different disciplines, different fields and different topics. "Anthropology includes the study of human biology, language, prehistory, religion, social structure, economics, evolution, and anything else that applies to people." (Sutton & Anderson, 2004, p. 4) This means that anthropology is a very broad discipline, holistic in its approach and comparative or cross-cultural in its analyses. (ibid.) This definition of the interdisciplinary characteristics of anthropology is of even more relevance when the topic of interest is something like food.

Food is a highly social and cultural issue, like many other aspects surrounding human lives; but in addition to this, it is a biological necessity. This means the issue must be considered in all possible dimensions, including the natural and biological, or organic, dimensions. "As generalists, we study food as a system." (Belasco, 2008, p. 7) As food systems have multiple dimensions, all of which interrelate (Pottier, 2012 [1996], p. 302), connecting the findings from various fields such as biology, nutrition, agronomy, but also history and economics, becomes inevitable. (Belasco, 1999, p. 31) "In developing the idea of food systems as complex, heterogeneous over space and time and replete with non-linear feedbacks, my intention is [to] be fully inter-disciplinary, aiming for marriage of natural and social science akin […]". (Ericksen, 2008, p. 237) Different disciplines have contributed to our understanding of diets and dietary change, but what is often still missing is the combination of findings and interconnection with the results from other disciplines to get a fuller picture.

> "From the ethnographic point of view, we can investigate how belief and behavior systems related to food arise, persist, and change. Studying what individuals do and say about food in ethnographic contexts in the light of long-term historic and prehistoric patterns of behavior will clarify the process of human subsistence adaptation and the process will be further elucidated through consideration of the changing social, political, and ecological contexts of human food preferences and aversions." (Roosevelt, 1987, p. 577)

In general, for an anthropological analysis of food habits, the nature and circumstances of its sources, availability, production and distribution are essential features. But most of the time such features are not taken into consideration when the food systems of modern societies are

studied, probably because the production of foods and the circumstances of their consumption seem so remote from each other. It is true that most people don't produce their own food anymore, instead buying at least the largest proportion of it from other non-producers; "[…] complex modern societies appear to have divorced food production from food consumption; but why what quantities of food were made available when they were, and how such availabilities shape choices, are questions deserving answers all the same." (Mintz, 1985, pp. 179-180) For Mintz, studying the history of food, including modes of production for example, enables us to see how such food systems adopted their characteristic form over time. (ibid.)

A Combination of Methods

Besides the inclusion of different disciplines in the analysis of any social system, in this case food systems, it is also crucial to combine different methodological approaches and to make use of a triangulation of methods, including the emics and etics along with behaviours and thoughts. This term can be used for two different situations. Firstly, the combination of different qualitative methods can be called "triangulation", and secondly, the same term is used to describe a fruitful combination of both qualitative and quantitative methods, which can result in very different methodological points of view in regard to one topic. "[T]he two methods are conceived in terms of the complementary compensation of the weaknesses and blind spots of each single method." (Flick, 2014, p. 30)

Thus, qualitative and quantitative approaches should be viewed as complementary to each other rather than competitive. The big advantage of this combination is that it results in a fuller picture of the analysed phenomenon (ibid. p. 34), which is particularly important in the analysis of food and food habits. A triangulation of methods should lead to a complementation of results, and therefore the most holistic understanding possible of the researched phenomenon, which should be pursued by all anthropologists – and even more by anthropologists analysing food systems – because "[t]o properly understand humankind, one needs both: insider's and outsider's knowledge." (Begemann, 2016, p. 10)

This paper did exactly this: it is based on several qualitative and quantitative research methods, e.g. various kinds of interviews and observations, and includes other sources such as literature and statistics from different disciplines, media and even social media.

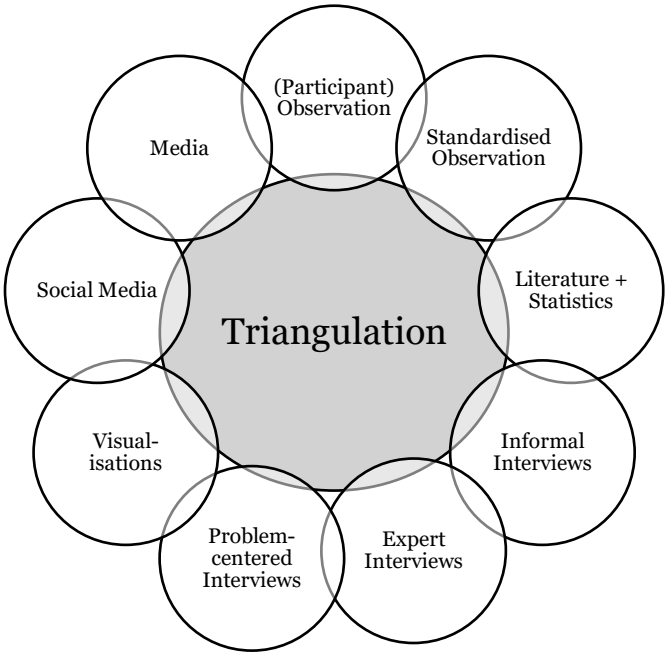

Figure 36: Triangulation of Methods

10.1 Forms of Observations

The central method in social and cultural anthropology has traditionally been participant observation. This method is used "[…] in order to investigate, experience and represent the social life and social processes that occur in that setting – [and] comprises one core activity in ethnographic fieldwork." (Emerson, Fretz, & Shaw, 2007 [2001], p. 352) Recalling the distinction between emic and etic in Chapter 3.5, we may say that observations alone are part of the etic analysis – insights that can be gained completely independent from the observed group. But carrying out *participant* observation can lead to both etic results concerning the behaviour of the observed group, and to emic results, as it usually involves a certain amount of interaction with the respective group, allowing the observer to obtain knowledge on their perception. Both the insider's and outsider's point of view are needed to holistically understand a reality. Participant observation is a valuable method for any social and cultural anthropologist. For this reason, it was one of the central methods for this paper – which is why we should also begin with it.

(Participant) Observation

Spradley (1980) distinguishes between three phases of participant observation. (Spradley, 1980, p. 73) The first phase is descriptive observation. This should be as open as possible to

provide an orientation to the field. Consisting first and foremost of nonspecific descriptions, it should help with the development of more concrete research questions. After the first overview of the respective field, it should be possible to concretise or correct the research questions, research design and even the methods to be employed, and to make first assumptions. The second phase, the focused one, has the ultimate aim to further narrow the perspective on the particular processes and problems that seem to be the most essentials to the (adapted) research focus. Therefore, certain aspects in the field can be given greater importance and attention than others. In contrast to the first open phase, this phase is more systematic and has the intent to focus only on the relevant aspects. This collection of relevant data ends in a selective phase, which is the third and last phase of an observation and focuses on finding further evidence and examples for the in step two focused aspects. (Flick, 2014, p. 313)

After living in Iceland for many months over a time span of 6 years (most of the time as one of the aforementioned migrant workers in the tourism sector), it was possible to gain knowledge about the country, the people and the developments they faced. This time provided access to the first information, with which the topic of interest could be identified. With this focus in mind, I started my fieldwork in the summer of 2017, which can be understood as the first phase of the participant observation. Through these first findings, the focus could eventually be narrowed down for the second phase (focused), and ultimately the third (selective) phase, which was conducted during my second field trip in the winter of 2018, after a thorough analysis of relevant literature and statistics from relevant fields. This had the advantage of gaining more detailed background information on the topic that was valuable for further observations and interviews, but also to make observations both in the summer and winter time, which indicate huge differences – not just between midnight sun and darkness (nearly) all day long, but also between a very busy time filled with tourists and a much calmer time for the country and inhabitants.

During both field trips, but in more detail in the second, focused and selective phase, (participant) observations were held in grocery stores, in museums, in cafés and restaurants, and in groups of activists and vegans during events and happenings. Grocery stores, cafés and restaurants, were visited regularly in Reykjavík, as well as its surroundings, and in different countryside locations to observe the product assortment or menu and the people's interaction with it, including occasional conversations with staff. Furthermore, museums concerning whales, whaling, the history of Iceland, and the development of consumption (Whales of Iceland, Árbæjarsafn, Skógasafn) in Reykjavík and Skógar were included in the observations. On all these observation occasions, I usually talked to people involved in the concerned activities.

Additionally, events and happenings by vegan and anti-whaling activists in Reykjavík were attended, mostly discovered through announcements on social media. This appeared to be particularly fruitful because of my status as a vegan, as I got accepted by the participants and was spoken to without any hesitation. But to "[…] become part of the field and an active member of it" (Flick 2014, 296), which is actually required from the researchers doing participant observation, is simply not possible in such a short time. But the fact that I have been to and worked in Iceland and was a member of one of the focus groups helped during this process.

Whereas visits to stores, museums, cafés and restaurants can be counted as both observation as well as participant observation, depending on my degree of involvement with other participants in this particular situation, further observations without direct participation or interaction were carried out in other places. Apart from the understanding of behavioural and mental events that I acquired through the participant observations and the interaction with people, I analysed stores with books concerning traditional Icelandic foodstuff and the inclusion or exclusion of whale meat, as well as books with plant-based dishes, in order to understand the general opinion, which is part of the etic superstructure.

In the end, (participant) observations were partly overt and partly covert, depending on whether or not I carried out informal interviews. Having the possibility to conduct two separate field trips in two completely different seasons brought huge benefits, for example in observing how much can change even in such a short period of time.

Standardised Observation

In addition to (participant) observations, I used the method of standardised observation, but only during the more focused observation phase in the second field trip. For standardised observation, relevant indicators and criteria are specified in advance, and finally noted in certain surveillance sheets. (Halbmayer & Salat, 2011, p. 14)

Occasions for doing that were in the various urban and rural grocery stores Hagkaup, Krónan, Bónus, Nettó, Samkaup, Iceland, and Kjarval, where I analysed the product assortment, including the availability of products such as whale meat and plant-based items. To do this, I photographed the available products and noted the indicated prices.

In bookstores, I noted the various books and magazines concerning food and the recipes included – and if they also contained vegan recipes or recipes for whale meat in some form. In addition, the same was done in vegan and vegetarian restaurants or restaurants with non-meat options, as well as restaurants offering whale meat, where I observed the various plant-based and whale-based dishes and their prices. All this was done in order to gain comparable etic

data completely independent from the researcher as a person as well as from the observed group.

In the end, the standardised observation was useful to get an overview of quantified and objectively comparable results. This is because of our above mentioned approach in using both qualitative and quantitative methods and data, as well as emic and etic analysis to complement one another.

10.2 Forms of Interviews

In addition to these forms of observations, several interviews, formal and informal, were conducted in order to get more insights into the emic perspective, for example the meanings of a certain foodstuff for the individual. In general, my sampling of interviewed persons was not randomly chosen, but in consideration of the thematic focus, based on first assumptions and the attempt to capture the heterogeneity of the field and the manifold dimensions of the research focus. Therefore, my informants were locals of all ages, genders and employments, who could talk about their experiences concerning the time before, during and after the financial crisis as well as the tourism boom, their opinions on whale meat and whaling, and their perception on plant-based diets and activism. Furthermore, special population groups were questioned such as vegans, activists, whalers, restaurant owners, employees in museums and employees in whale-watching companies.

Informal Interviews

The first and most frequently used way of talking to the persons of interest were informal interviews. Informal interviews, also called free interviews, are conversations that happen during fieldwork. They are created unplanned on the field sites and afterwards put into a clean copy in the form of verbatim records or protocols. Such interviews, which are usually held in an unstructured way, can demonstrate a more intimate level, especially in regard to personal experiences, when the interviewer includes him- or herself as a person. In my case, bringing my own experiences as a subjective individual who happened to be vegan, opened certain gates to vegan or activistic groups. In general, not being a tourist but a former employee of Iceland, did the same. This form of interview, in which both the interviewee and the interviewer talk on the same level, implicating an equality between the two, can be understood as “ero-epic conversation” after Girtler. (Girtler, 2001, p. 147) From my former research, I knew that the interviewed persons are usually more open with this method as it does not include a

hierarchical interview situation, but rather creates a normal conversation based on reciprocity – which is not the case with formal and recorded interviews.

Informal interviews are especially fruitful in combination with participant observation, which allows the researcher to gain as many perspectives – both objective and subjective – from one setting as possible. A combination of observation and interviews can therefore result in the comprehension of both etic behavioural and emic mental events taking place at the same time. Furthermore, from such unstructured interviews, it is possible to deduct information on which you can ultimately base your formal interviews for further and more detailed information.

Problem-centred Interviews

Conducting interviews is an important process that serves the purpose of putting the observed in relation to the understanding of the people and to complement it with their knowledge and explanations.

> "The aim of ethnographic interviews is to include everyday experiences and local knowledges, thus cultural certainties, and to approach the understanding of subjects and their cultural interpretative patterns and practices. The interview should allow access to the emic perspective, to the construction of reality from the insider's viewpoint, and to subjective interpretation." (Schlehe, 2008 [2003], p. 121, translated by the author)

It therefore serves as the necessary emic completion to the etic accounts.

In contrast to spontaneous and free interviews, formal interviews feature other specific conditions, including a certain place, a certain time (which is usually limited) and are generally placed outside the normal setting. While informal interviews are advantageous to begin the data collection in order to get an overview of the field during the exploratory phase, formal interviews can be used to ask the informants more detailed questions about their insights and were ultimately used in my research process to compare or complement data gathered via other methods.

As such formal interviews were conducted in the focused and selective phase of the observations, or in general the data collection period, I gave the interviews the same thematic frame, thus a focus in regard to content, as in the focused and selective observation. This can be called a problem- or topic centralised form of interview. Because of the fact that the interviewer has on the one hand a certain preconception through previous data, e.g. from the exploratory phase and informal interviews, but on the other stays open to unknown aspects and directions, it is a combination of both induction and deduction. This allows the interviewer not only to go much deeper into details of the already gained insights, but to correct open or unclear aspects and events, and complement the previously collected data. (Halbmayer & Salat, 2011, pp. 21-22)

For this form of interview, a guideline usually serves as a support for focussing on the central topic and asking detailed questions about it, which makes it semi-structured. My own semi-structured guidelines were created in regard to my sampling of interviewees. Finally, "[t]he interview guide is designed to support the narrative string developed by the interviewee." (Flick, 2014, p. 223). Nevertheless, it is of great importance to stay flexible and open. This kind of interview is usually also audio-recorded if the interviewee agrees, which is practical for the subsequent analysis.

In the end, all my problem-centred interviews were conducted face-to-face and audio-recorded, for which I used my mobile phone. In earlier experiences, the interviewed persons preferred mobile phones than special recording devices. In my view, people tend to forget about the unusual and possibly stressful setting that they are in, as they are used to having phones on the table.

Expert Interviews

Finally, I had the chance to conduct interviews with so-called "experts", which allowed me to complete my data. Such interviews are designed for "[...] specific and limited groups of potential interviewees: experts in institutions, who have specific insights and knowledge because of their professional position and expertise." (Flick, 2014, p. 227)

Just like the problem-centred interviews, they are a semi-structured interview form with a guideline, with the difference that the interviewed person is more interesting for their expertise in a certain field than for their individual perception on one topic. Such experts were, for example, the director of a whaling company, a marine biologist, or the head of trading of a food store chain. Just like the problem-centred interviews, the expert interviews were formal, face-to-face, semi-structured and audio-recorded.

10.3 Further Methods

All methods had the aim to use systematically different approaches and to complete their results. Besides the classical ethnographic methods like observations and interviews, other methods, including certain modern technologies, were also applied.

(Social) Media

Media anthropology offers „[a]n Approach to Media That Is Tuned to the Particular in the General, the Local in the Global, the Transient and Circumstantial in the Enduring and

Universal.“ (Rothenbuhler & Coman, 2005, p. 10) In order to obtain knowledge concerning the superstructure of a social system, various forms of media, such as newspapers, books and magazines, flyers, and even advertisements, became an essential tool. All these materials were explored and examined in regard to traditional Icelandic foodstuff, whale-meat and whaling in general, plant-based products and diets, and tourism. But as it became essential to understand the superstructure of other countries too, for example to examine the perception of Iceland and whaling from non-Icelandic viewpoint, it was necessary to include international media in the analysis. Whereas the various materials of Icelandic media were gathered either in Iceland, especially in bookstores, or online, access to the international media were exclusively established through the world wide web. This was an important factor for understanding national and international discourse on specific topics.

But the possibilities afforded by the internet did not stop there. Social media are used by the majority of the Western population nowadays. This, along with the reality of an ever more globalised world and increased international interactions between people and topics, makes the internet a medium of immense importance in the analysis of cultural traits in the Western world. It can give deep insights into any topic, including the thoughts, perceptions, and meanings held by individuals. In the end, various pages, groups, and events on Facebook – under them „Vegan Ísland“, „Reykjavík Whale Save“ and „Sea Shepherd Iceland“ – were examined on a regular basis, which allowed me to understand a wide range of people’s behaviours and to access specific events for my participant observations. This was not only done during my fieldwork in Iceland, but also before and between the field trips, as part of a pre-study and to follow the constant interactions and trends.

Visualisations

Not only does everyone know the proverb “a picture is worth a thousand words”, but everyone also knows exactly what it means. Images are filled with emotions and therefore used by the media and advertisements. This makes them so interesting for this thesis, as they represent the general opinion and the etic behavioural superstructure. We see images in books, on the internet, on social media, in magazines, in flyers, in newspapers – even on stickers on restaurants or simply lanterns. Our world is filled with visualisations, which must be included in a holistic analysis of sociocultural traits, especially when the study includes the superstructure of a social system, as they show emotions, ideologies and meanings.

But from the image itself, which can be analysed as a part of the superstructure, images also have a practical function for anthropologists. “[…] [T]here is a long-standing tradition of participant observation with a camera whereby the anthropologist takes photographs as she or

he (or a collaborator) participates or observes within a particular cultural setting." (Murdock & Pink, 2005, p. 153) Visualisations of certain situations and phenomena during field work function as a support for collecting and especially registering data. "The advantage of visual data over verbal data methods is that processes can be analyzed in the making and how they unfold, instead of having (only) reports about them. The advantage of visual data over observation is that they are less volatile – images or video recording can be watched again and again, while from observations only the condensed version in the researchers' field notes remain available." (Flick, 2014, p. 298) Thus, such visual recordings are made available for later analysis by the researcher and by others, which is a huge advantage. In addition, recordings of observations show the experience in a less selective way and are therefore more objective than simple fieldnotes. (ibid. p. 335)

Literature and Statistics

A central role in the writing of the thesis had the use of secondary research material. As the aim was to look as holistically as possible at the examined phenomenon, it became clear that, in the frame of a Master's thesis, this can only be done with the use of further material. Involving different disciplines, different fields, and different topics, as we said in the beginning of this chapter, can only be done by consulting the findings of other researchers.

Therefore, due to the importance of combining findings and results from other disciplines like nutrition, economy, agronomy, biology, ecology, history, and so on, I included literature, in the form of both digital and non-digital articles and books, as well as various websites. These findings involve quantitative findings in the form of statistics, which became a crucial part of this thesis to demonstrate etic behavioural changes. All findings from other researchers are referenced accordingly to present them in the most transparent way.

10.4 Documentation and Analysis

Data Documentation

The proper documentation of data is an indispensable element of scientific research. Documentation refers to everything that is documented, including scripts, drawings, pictures or sound. But the written word usually makes up the majority of documented information. (Fischer, 2008 [2003], p. 296) In fieldwork, either during an observation or an interview, fieldnotes are the first and direct form of documenting the experience, as well as taking photos

or videos. “Fieldnotes are a form of *representation*, that is, a way of reducing just-observed events, persons and places to written accounts. And in reducing the welter and confusion of the social world to written words, fieldnotes (re)constitute that world in preserved forms that can be reviewed, studied and thought about time and time again.” (Emerson, Fretz, & Shaw, 2007 [2001], p. 353) The purpose of making fieldnotes is the transformation of researcher experiences in the field into data which is systematically useful.

For this reason, I carried a small notebook everywhere I went to make hand-written notes. This was not only done in the field while observing, but also while interviewing. As I often wrote in a hurry, in the middle of the research, I had to transcribe and digitalise the notes afterwards, for which a computer was used. This documentation in form of protocols has to be done as soon as possible, because the longer it takes, the more details will be lost. Therefore, protocols are not written during the process of data collection, but afterwards, which I usually did at the end of the day. In addition to this, photographs were taken, as elaborated in the previous chapter.

Data Analysis

Once all collected data was transcribed and digitalised, the subsequent analysis was done with the support of the computer software MAXQDA. Following Philipp Mayring’s structure, known as the “content analysis”, it was possible to code and structure the various data. This can be done with a wide range of different materials, which was especially important for this thesis. An essential feature is “[…] the use of categories that are often derived from theoretical models: that is, categories are brought to the empirical material and not necessarily developed from it (although they may be repeatedly assessed against it and modified if necessary). Above all, and contrary to other approaches, the goal here is to reduce the material.” (Flick, 2014, p. 429)

The development of a coding frame, i.e. a well-defined system of categories, can be seen as the centre of this method. This is achieved through the formulation of main categories (structuring), followed by subcategories (generating). (ibid. p. 373) In order to categorise the different contents of the various materials in accordance with one theme, several codes are defined for a thematic frame. This is a process in which codes are constantly reviewed, tested and finally, corrected. In the end, all individual codes are summed up in bigger categories, which then are structured according to their content. These categories are developed through an interplay of, on the one hand research focus and theories, and on the other the empirical material. (Mayring, 2003 [1983], pp. 42-44) This structure in regard to the central topic allows us to then draw parallels in the various contents, while the ultimate aim is to summarise and structure the whole material. Furthermore, „[t]he category as an unit and end product of the

content analysis has inductive as well as deductive attributes.“ (Ramsenthaler, 2013, p. 25) This process is on the one hand deductive, as you have certain presumptions and a thematic focus, which directs your analysis of the material, but on the other it is inductive, because you still have the possibility to develop codes and categories from your analysed material.

In Conclusion

All in all, we can say that through a variety of different methods (observation, participant observation, standardised observation, informal interviews, problem-centred interviews, expert interviews, media and social media, visualisations, and the use of literature and statistics), relevant emic and etic data was collected on both behaviours and thoughts. Furthermore, the research process was circular, which indicates a permanent oscillation between induction and deduction. The first assumptions were generated through the empirical material, which were constantly reviewed and corrected during the research process. This combination of inductive reasoning, deduction and the empirical testing of such assumptions leads to a processual integration of data collection, analysis, and theory building. (Halbmayer, 2010, pp. 43-44) “Circularity [...] forces the researcher to permanently reflect on the whole research process and on particular steps in the light of the other steps. It’s a close link between collecting and interpreting data and the selection of empirical material.” (Flick, 2014, p. 139). For this, a certain openness for modifications and adaptations during the research process is essential.

Applied to this thesis, this means that my first insights, based on various trips to Iceland, on literature and on social media led to my first assumptions. Nevertheless, I remained open, and after the first fieldwork and the first collected data I was able to focus my research and adapt my methods. The whole research process can be retraced in the following figure.

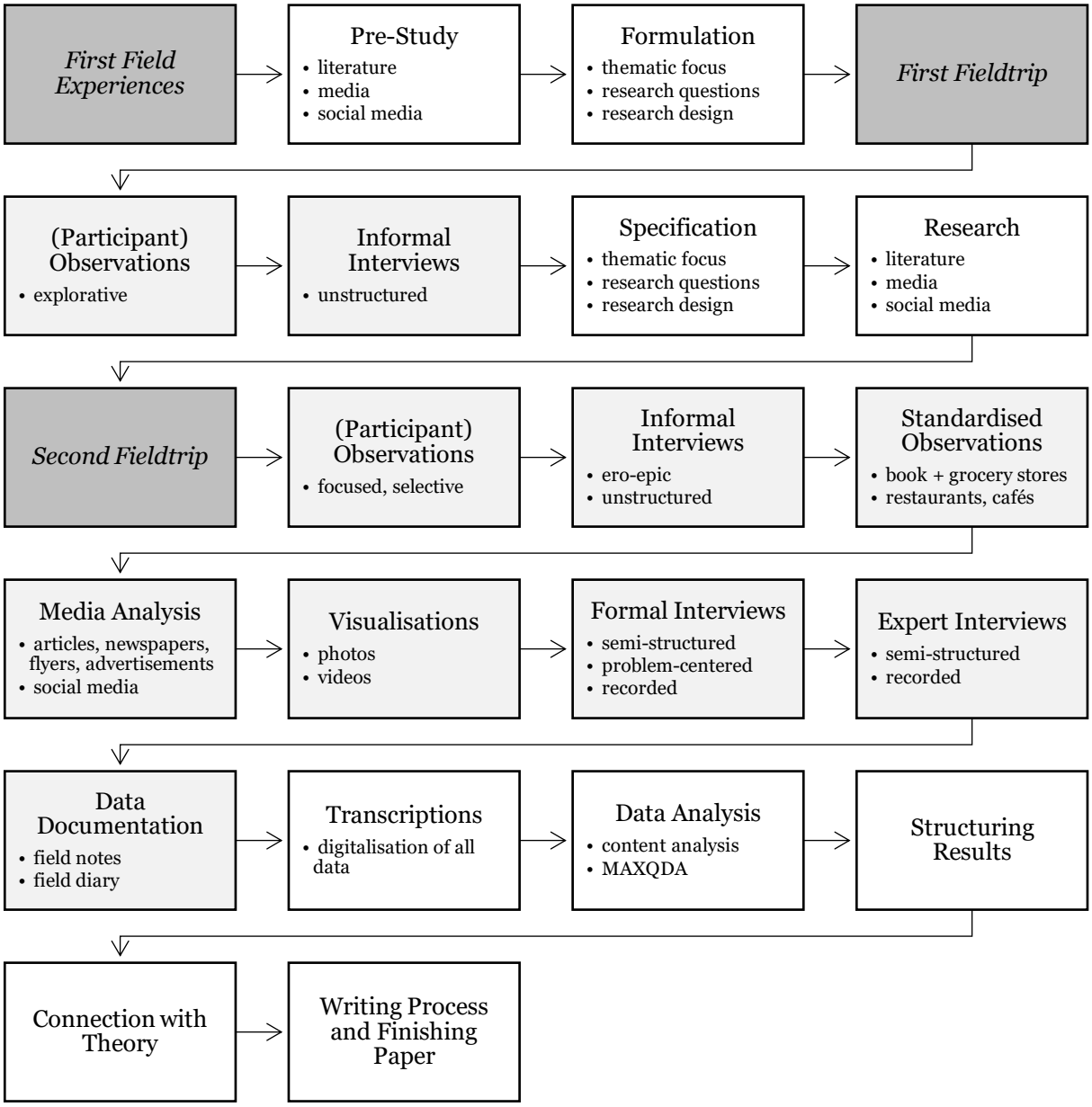

Figure 37: Research Process

To make use of different disciplines and methodological approaches in a systematic way and to complement the resulting data was the ultimate goal of the chosen methods. For this, a combination of a deductive and inductive approach and a combination of quantitative and qualitative methods were applied in order to understand and explain the researched phenomena in the most holistic way. Overall, we can affirm that we successfully gained insight into the behavioural and mental events that were apparent in and around Iceland, and therefore have contributed to a wider understanding and explanation of the examined phenomena.

10.5 List of Informants

- Andri Guðmundsson (AG), historian and director of the “Skógasafn” ethnographic museum, 03.12.2018
- Eyþór Halldórsson (EH), whaler, historian, teacher, 05.11.2018
- Guðrún Helga Sigurðardóttir (GHS), author of the book “Traditional Icelandic Food”, 27.11.2018
- Julie Lasserre (JL), marine biologist and founder of „Sea Shepherd Iceland“, 28.11.2018
- Kristján Loftsson (KL), director of the whaling company “Hvalur H/F”, 06.12.2018
- Stella Anton (SA), vegan and anti-whaling activist, 28.11.2018
- Stefán Guðjónsson (SG), head of trading of the food store chain “Samkaup”, 30.11.2018
- Stefán Úlfarsson (SU), owner and chef of the restaurant „Þrír frakkar“, 07.12.2018
- Tinna Kvaran (TK), former guide in the “Skógasafn” ethnographic museum, 22.11.2018
- Employees at “Elding Whale Watching”
- Employees at “Árbæjarsafn” ethnographic museum
- Employees at “Whales of Iceland” museum
- Employees at various grocery stores
- Employees at various restaurants
- Locals with a connection to whaling / whale meat
- Locals with a connection to veganism / activism
- Vegans / vegetarians / activists

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12 List of Figures

13 Appendix

13.1 Illustration

	Nature	Infrastructure	Food	Structure	Behavioural Superstructure	Mental Superstructure
874-1880	Climate, landscape, natural resources	Subsistence economy	Animal-based food habits, incl. whale meat	Feudal society		Animal use = good, whales = godsend, stranded whales = jackpot
As of 1880		**Modernisation (International trade, industrialisation)** Market-based economy → population growth	Western, incl. plant-based food habits	Urban, capitalistic, specialised society	New cultural elements, incl. music, media	Western values, norms, beliefs
In Western countries		*Industrial whaling → fewer whales; new alternatives → less profitable → whaling ban*			*Activism, media*	*Whales = symbol of nature and worth of protection*
2008-2010	Eyjafjallajökull eruption	**Financial crisis** Reduced import and export → increased agricultural land and livestock; increased whales and fish caught	Traditional, national, animal-based food habits		Literature, media	Home-grown, home-made, regional products = good
After 2010		**Tourism boom** Increased imports and foreigners → decreased fishing and whaling activities; increased eco-tourism	Decrease of animal-based food habits, incl. whale meat		Activism, media, education, literature	Use of whale = bad; sustainable, plant-based lifestyle = good
In Western countries	*Climate Change*	*Globalisation* *Global industry → reproduction pressures*	*Sustainable, plant-based food habits*		*Activism, media*	*Plant-based consumption = good and ethical; animal-based = bad*

■ = Causative factor

Figure 38: Illustration of the Most Important Findings

13.2 Abstracts

English Abstract

"How does a social system, including its individual members, adapt to radical changes, and what roles do food and ideologies play in this?" This is the question the following paper is concerned with and aims to understand and explain it with the help of one example – Iceland. The examination of certain developments of economic and ecologic origin, with a focus on the last 150 years, and the manifold consequences on both the collective and the individual level, intends to show the general relation between material and ideational manifestations. This correlation, which is inherently universal to all social systems and includes food and food-related behaviours as a key factor, is further demonstrated by the example of whale meat. The in-depth analysis of radical changes in Iceland through events like modernisation and globalisation processes, the financial crisis, the tourism boom and the Eyjafjallajökull eruption, conducted using qualitative and quantitative methods and data, shows a complex interplay between internationality, traditionality, whaling, fisheries, activism, sustainability, media, and even climate change, faced by the country.

Key words: change, assimilation, cultural adaptation, ecology, economy, societal transformation, ideology, Iceland, globalisation, food, whale meat, whaling, tourism, media, financial crisis, climate change, activism, veganism, sustainability

Deutscher Abstract

„Inwiefern passt sich ein soziokulturelles System mit all seinen Individuen radikalem Wandel an und welche Rollen spielen Nahrung und Ideologie dabei?" Dies ist die Frage, der diese Arbeit nachgeht und mithilfe eines Beispiels beantwortet – Island. Die Untersuchung spezifischer Entwicklungen ökologischer und ökonomischer Natur, mit Fokus auf die letzten 150 Jahre, und ihre weitreichenden und allumfassenden Konsequenzen auf sowohl kollektiver als auch individueller Ebene, soll das generelle Verhältnis zwischen materiellen und ideellen Manifestationen verdeutlichen. Diese Verbindung, welche unweigerlich alle Gesellschaften gleichermaßen betrifft und letztendlich auch Nahrung und die damit einhergehenden Verhaltensmuster inkludiert, wird anhand von Walfleisch demonstriert. Die eingehende Analyse von radikalen Transformationen durch Ereignisse wie Modernisierungs- und Globalisierungsprozesse, die Finanzkrise, der Tourismus-Boom und der Eyjafjallajökull-

Ausbruch, welche durch qualitative und quantitative Daten und Methoden durchgeführt wurde, zeigt ein komplexes Zusammenspiel zwischen Internationalität, Traditionalität, Walfang, Fischerei, Aktivismus, Nachhaltigkeit, Medien und sogar Klimawandel, welches das Land gegenübersteht.

Schlagwörter: Wandel, Assimilierung, Kulturelle Adaptation, Ökologie, Ökonomie, Sozialer Wandel, Ideologie, Island, Globalisierung, Nahrung, Walfleisch, Walfang, Tourismus, Medien, Finanzkrise, Klimawandel, Aktivismus, Veganismus, Nachhaltigkeit