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"Living Between Two Worlds
Subsistence, Leadership, and Social Inequality among the Iñupiat"

verfasst von / submitted by

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1. Introduction

The expansion of nation-states and industrial society has been dramatically transforming the lives of hunter-gatherers and other small-scale societies around the world. The varying degrees and forms in which hunter-gatherers have integrated into larger economies has differently affected their livelihoods and social fabrics. In the circumpolar regions of North America, once populated by hunting and gathering societies only, Native populations have been interacting with market economies already for over a century. From Alaska to Greenland and across Canada, a recurrent pattern has emerged that has been usually referred to as mixed economy, in which people integrate traditional subsistence hunting, fishing, and gathering, with new technologies, money, wage labor, and commercial activities. The persistence of this pattern over the years and decades has raised questions about how northern hunter-gatherers adapt to contemporary socioeconomic change, and whether these mixed economies might be persistent or transitional.

The Iñupiat from Northwest Alaska have traditionally lived as foragers, with varying combinations of hunting, fishing, and gathering, according to their regional environments. Some of the Iñupiaq coastal settlements, such as the village of Wales in this ethnographic case study, have primarily been whalers and hunters of large sea mammals. Since the nineteenth century, their subsistence and settlement systems have been profoundly transformed, first through commercial whaling, fur trapping, and reindeer herding, later through the gold rush and the settlement of Northwest Alaska by US-Americans, and throughout the twentieth century, through the progressive integration of the Iñupiat into a market economy, with new kinds of occupations different from their traditional subsistence activities.

Today, cash has permeated every sphere of life, including subsistence hunting, increasing the integration into and dependence on a larger political economy. Furthermore, with the territorial dominance of the United States over Alaska, both its resources and its people, the Iñupiat have experienced dramatic sociocultural change within a few generations. Changing livelihoods, state regulation and intervention, and market integration, have deeply transformed the society of the Iñupiaq in various ways and at many levels. In the twenty-first century, the Iñupiat strive to continue their traditional way of life while actively adapting to the modern world, participating in subsistence as much as in the cash economy, and asserting their own cultural identity while coping with externally imposed indigenism, between Iñupiaq and U.S. American cultures. "We're living between two worlds", said an informant once to me.

This thesis presents a case study of Kingigin, also known as Wales, an Iñupiaq coastal village located in the Arctic tundra, at the westernmost point of the Seward Peninsula on the Cape Prince of Wales facing the Bering Strait. Traditionally a whaling settlement, Wales has a mixed economy as many other villages in the North American Arctic. Based on the ethnographic and ethnohistoric literature I will trace the historical developments leading to the contemporary mixed economy, and I will discuss my own data and available ethnographic studies in order to analyze how these changes in the livelihoods and society of the Iñupiat have transformed subsistence, leadership, and traditional patterns of social inequality.

1.1. State of the art

Anthropology has had a longstanding interest in hunting and gathering societies, which significantly increased with the revival of theories of sociocultural evolution and the rise of cultural ecology during the 1950s and 1960s. Modern studies of hunter-gatherers are usually considered to have their genesis with the groundbreaking conference held in Chicago in 1966 titled *Man the Hunter* and its resulting homonymous volume (Lee and DeVore 1968). Although the volume covers a wide variety of topics, environment and subsistence occupy a central place, given the primary interest in the ecological adaptations of foragers[1] and the reconstruction of our evolutionary past. *Man the Hunter* is considered a watershed, laying the foundations for future studies of foragers, especially within the field of cultural ecology and later of human behavioral ecology.

In another volume (Leacock and Lee 1982) resulting from a follow-up conference, researchers turned their attention towards history, the internal dynamics of hunter-gatherer societies, the interactions of foragers with their agricultural neighbors, and their contemporary struggles in the face of encroaching states and the expansion of industrial capitalism. This volume, rooted in a Marxist tradition, paved the way for studies on the social relations and complex histories of foragers within larger political economies and world-systems (e.g., Ingold, Riches, and Woodburn 1988b, 1988a). In a similar vein, more recent volumes emerging from subsequent conferences have included studies on the interactions of foragers with states and non-governmental organizations (Schweitzer, Biesele, and Hitchcock 2000), the effects of cash and commoditization on subsistence and sharing (Wenzel, Hovelsrud-Broda, and Kishigami

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[1] The terms hunter-gatherers and foragers are used interchangeably in this thesis.

2000), and the impact of industrialization and extractive industries on hunter-gatherers (Saxinger, Seidl, and Hakami 2016).

In the North American Arctic, a growing body of research has developed during the past five or six decades around the issues of subsistence and mixed economies (Wheeler and Thornton 2005; Wenzel 2013; Langdon 1986a; Wolfe and Walker 1987; Fall 1990). While not always connected with the field of hunter-gatherer research, both fields did overlap at times through researchers, publications, conferences, and more importantly, through shared empirical and theoretical problems. Following the zeitgeist and in a similar way as in hunter-gatherer studies, subsistence research in the Arctic began under the influence of cultural ecology, though not always explicitly. Initially marked by ideas of acculturation (Murphy and Steward 1956; VanStone 1960), mixed economies were considered to be transitional, and subsistence was thought to eventually succumb to fully dependence on market economies. However, this perspective soon gave way to an understanding of mixed economies as socioeconomic systems and (persistent) adaptations (BurnSilver et al. 2016; Wolfe 1984). The field focused first on the economics of subsistence harvests (the 'hows' and the 'whats') where money is but one more resource, and later turning increasingly to the study of the social forms and economic arrangements of subsistence (Wenzel 2013).

Research has repeatedly demonstrated the continuing economic, social, and cultural importance of subsistence for Native communities, and there is a general agreement about the interdependence between subsistence and cash economies in the Arctic (Aslaksen et al. 2009; Wolfe and Walker 1987; Lonner 1986; Langdon 1991). However, there have been divergent perspectives on how the monetized and subsistence sectors are articulated. One sees them as mutually supportive sectors in 'benign' interaction, whereas the other perceives them as competing and conflicting forces (Wheeler and Thornton 2005, 79). While tensions between both sectors of the mixed economy had been identified already decades ago (Langdon 1986b), they have been also often glossed over or even overlooked (Wenzel 2017). More recently, while recognizing the persistence and adaptive character of mixed economies (BurnSilver et al. 2016), researchers have been giving more attention to processes of internal differentiation, stratification, and emerging or intensifying social inequalities (Dombrowski et al. 2013; BurnSilver and Magdanz 2017; Harder and Wenzel 2012; Ready and Power 2018; Dombrowski 2007).

Anthropology and archaeology have a well-established tradition in the study of social inequality, a part of which has also dealt with hunting and gathering societies. Hunter-gatherer research has moved from the initial generalized model of foragers towards understanding and

explaining variability (Kelly 2013), stimulating research on non-egalitarian hunter-gatherers as more than mere exceptions (Sassaman 2004; Price and Brown 1985; Roscoe 2020, 2002; Ames 1994; Hayden 1994). This, together with the recognition that some forms of social inequality also exist among egalitarian foragers, as well as the growing evidence of social inequality during the Upper Paleolithic, has put hunter-gatherers in the center of modern research on the emergence, evolution, and dynamics of social inequality (Price and Feinman 1995b; Moreau 2020a; Price and Feinman 2010a; Price and Brown 1985). While this field is not directly linked to the study of mixed economies, its theories, hypothesis, and methodologies are relevant and useful to understand contemporary issues around social inequality in the Arctic (Buela 2020).

Foragers have been engaged in a variety of interactions with agricultural and pastoral neighbors, traders, and colonial powers, many of them for hundreds, some even thousands, of years, and while many of these interactions involved domination and inequality vis-à-vis outsiders, not all of them did (Kelly 2013, 19). As Lee and Solway (1990) argue, not every form of contact necessarily leads to loss of autonomy, dependency, and abandonment of foraging, and we need to "consider the possibility that foragers can be autonomous without being isolated and engaged without being incorporated" (Lee and Solway 1990, 110). In many parts of the world, foragers are experiencing similar challenges and transformations in their lifeways as a product of expanding market economies and industrialized nation-states. Insights from Arctic mixed economies might help to find regularities across processes of culture change and identify factors that account for variability in their outcomes. As Wenzel (2013, 192) has argued, "research on the ecological-economic dynamic of Inuit subsistence culture, by focusing on how material transfers and exchanges are socially ordered, has applicability in the context of other forager societies".

In this thesis, I attempt to connect these partly overlapping fields of research by looking at continuities and transformations of subsistence as well as social relations and institutions among the Iñupiat of Alaska in the modern world, as they adapt to a changing social, economic, and political environment. In doing so, I will address more general issues about how hunter-gatherers (and other small-scale societies) integrate into larger societies and political economies, and how they change in the process. Furthermore, I will apply and discuss some of the empirical and theoretical insights from the research on the origins and evolution of social inequality to understand contemporary processes of social change among the Iñupiat.

1.2. Problems and goals

The main problem of this thesis is to understand how socioeconomic change associated with the emergence of the mixed economy has affected subsistence hunting and its related social relations and institutions, forms of leadership, and patterns of social inequality. I investigate this problem in relation to the Iñupiat of Alaska and with the empirical case study of the village of Wales. Small-scale societies and subsistence economies have been integrating into industrial nation-states and market economies with increasing intensity and speed. The pace, intensity, and direction of culture change in a given society will depend on the contingencies and diverse factors in complex interactions that are involved in each particular case. A quest for regularities in causal relations in such processes and in the outcomes of these transformations, requires us to consider both the local ecological and sociocultural arrangements, as well as the nature of the external forces acting upon local communities (Wolf 2010[1982]; Murphy and Steward 1956).

In the North American Arctic, ongoing debates about the nature and fate of the mixed economies of (former) foragers has been guiding research questions already for decades. In this thesis, I intend to review and discuss some of the factors involved in this processes of change in order to work towards a synthesis, on the one hand, and to examine empirically how some of these factors, especially new technologies, market relations, and the state, act upon subsistence and social organization, in particular on leadership and social inequality. For this purpose, I formulate the following overarching research question and secondary guiding questions:

What are the effects of market and state integration on subsistence, leadership, and social inequality among the Iñupiaq?

› How and why does subsistence change in a mixed economy? What are the effects of new technologies, cash, and wage labor on subsistence hunting?
› How do changes in subsistence and livelihoods relate to changes in social relations and patterns of social inequality?
› To what extent market and state integration can explain contemporary transformations in leadership and social inequality?

With this thesis, I pursue three main goals. First, I intend to contribute to the ongoing discussions on the nature and dynamics of arctic mixed economies. In doing so, I will examine

the two opposing narratives outlined above in relation to the cash-subsistence relationship, i.e. the 'mutually supportive sectors thesis' versus the 'conflicting sectors thesis', as well as the two perspectives on the mixed economy, i.e. as a persistent adaptation or as a transitional stadium in a process of acculturation. There is probably truth in both perspectives, and often researchers recognize aspects of both thesis in their empirical case studies. However, which one of them best accommodates to a given case can vary significantly. Therefore, my goal is to examine and sort out factors and conditions that might contribute to one or the other model of the mixed economy. In other words, I attempt to examine what factors might determine the extent to which a mixed economy is viable and persistence, and thus what factors determine the particular pace, intensity, and direction of change.

Second, this discussion has a relevance beyond the arctic context, and addresses the more general question about how hunter-gatherers and other small-scale societies with subsistence economies adapt to socioeconomic change in the face of the expansion of global capitalism and industrial nation-states. For this reason, I examine these processes of culture change not only in relation to the particularities of the arctic context, but also in relation to more general aspects of foraging societies. In recent years, research on arctic indigenous peoples have begun to give increasing attention to questions of variability and heterogeneity within communities, processes of internal differentiation, and issues of social inequality. Hunter-gatherer research as well as research on the origins, evolution, and dynamics of social inequality, has more recently began to acknowledge and understand the diversity of the forms of social inequality among foragers. Therefore, my second goal is to connect these two fields and in order to explore how empirical and theoretical insights from hunter-gatherer and social inequality research can contribute to the study of mixed economies, and vice versa.

Third, I intend to contribute to a conversation between different theoretical approaches and traditions within the field of environmental anthropology, such as cultural ecology, ecological anthropology, political ecology, and human behavioral ecology. In particular, I am interested in exploring the ways in which systems-oriented and actor-based approaches might be combined, in order to work towards a synthesis and an integrative approach in the study of human-environment relations and culture change.

1.3. Methods

This thesis is based on original ethnographic research with fieldwork conducted in two stages, during which I applied qualitative methods including expert interviews, participant observation,

semi-structured interviews, informal conversations, and participatory mapping. In the spring of 2015, during my Master's studies, I travelled to Alaska as part of a seminar and practical course titled "Fieldwork Alaska" at the University of Vienna conducted by Univ.-Prof. Dr. Peter Schweitzer. The course followed a preparatory seminar in the previous semester titled "Cultures of Alaska", for which I conducted a literature review and wrote a seminar paper on the topic of subsistence and mixed economies in Alaska. Given my interest in subsistence issues, I contacted several rural communities in the Iñupiaq region, and subsequently I was granted permission by the tribal council and Native Corporation of Wales to conduct research in their community. After our seminar trip through Alaska in the spring of 2015, I travelled to the community of Wales where I spent five days. Wales is a small rural village at the westernmost point of the Seward Peninsula on the Cape Prince of Wales facing the Bering Strait, not connected to the road system, and accessible only with plane or snowmobile in the winter. In my initial research project for the seminar "Fieldwork Alaska" I explored the ecological and social determinants for subsistence and mobility strategies of Iñupiaq sea mammal hunters in the community of Wales. I returned to Wales in the spring of 2016 to conduct fieldwork for about three weeks.

I conducted expert interviews in three cities – Anchorage, Fairbanks, and Nome – with researchers from several institutions, including the Division of Subsistence at the Alaska Department of Fish and Game, the National Park Service, the University of Alaska Fairbanks, the Institute of Social and Economic Research at the University of Alaska Anchorage, and the regional non-profit Native Corporation Kawerak, Inc. In Nome, I visited the Eskimo Heritage Program at Kawerak, where I was kindly granted access to the archives with many transcripts of earlier interviews with elders from different communities. These interviews were used to refine the research problems and to identify other relevant issues.

During my fieldwork in Wales in the spring of 2015, I collected data through informal interviews and participant observation, and I conducted two sessions of participatory mapping guided by semi-structured interviews with two different hunters and crew captains, in order to map subsistence practices and mobility patterns. During those sessions, I provided printed maps of the region and asked the hunters to indicate on the map and describe as detailed as possible the approximate areas used for subsistence; the resources harvested in each area; the techniques used; the means of transportation used; the distance, frequency, and duration of the forays; and other relevant information related to the activities. The latter included not only the hunting of sea mammals, but also hunting of terrestrial animals and other subsistence activities at summer camps. The outcome of those sessions was maps upon which different areas and routes used by

the hunters where drawn and designated, with explanatory notes on the maps, and the complementary and explanatory information recorded in the interviews. The interviews were later transcribed and coded for subsequent analysis. It is worth mentioning that hunters use maps and GSP navigation systems themselves.

When I returned to Wales in the spring of 2016, my objective was to gather as much data and information possible related to the organization of hunting, the sources of income of individuals, household organization, and the political structure of the community. My primary focus laid, however, on the composition and functioning of hunting crews for whaling and sea mammal hunting, given their centrality in the Iñupiaq economy, social organization, and culture. I collected data through participant observation in several activities, including hunting sea mammals, gathering plant foods in the tundra, processing seals and other foods, as well as community-wide events.

Furthermore, I gathered data about the composition, organization, and functioning of every hunting crew in Wales through semi-structured interviews with all five hunting crew captains in the village, as well as through informal conversations with hunters and participant observation. In doing so, I gathered information about crew composition and the kinship ties between members, about the ways for financing the crew's activities, and about processes of decision-making within the crew. Through semi-structured interviews and informal conversations with several women, I gathered information about women's activities such as processing of wild foods, gathering of plant foods, as well as their paid jobs. Furthermore, I collected information through interviews and participant observation about economic aspects and decision-making within households as well as on sharing practices. Finally, I constructed genealogies of the families in the village through interviews and conversations with key informants in the village.

During fieldwork, I took written and oral notes on a notebook and a recorder. Almost on a daily basis, I developed these notes into longer summaries or reports, partly handwritten on a notebook and partly in a text processor on my computer. In the process, I started with a preliminary coding of the field notes. Some preliminary coding of the field notes was done during fieldwork. After fieldwork, field notes were transcribed entirely and interviews partially into a word processor. The resulting texts were later coded using the software Atlas.ti and analyzed according to the themes and the problems of this research. The genealogies constructed during fieldwork were used to interpret the data about the hunting crews and households, as well as many other statements and observations included in my notes and the interviews. It is important to note that the ethnographic research conducted for this thesis is of

an exploratory nature, with the purpose of identifying factors, relationships, causations, and issues for further inquiry. While some hypotheses are suggested and discussed, the generation and testing of hypotheses and theories would require further research and more systematic data, eventually incorporating quantitative methods.

In the problems and goals stated above, processes of change and transformation play a central role, and hence this research has a strong historical orientation. Throughout this thesis, I compare and contrast traditional practices and forms with contemporary ones. At this point, it is appropriate to explain what I mean by 'traditional', for this notion is problematic. Neither I use this term to denote a time immemorial, nor do I imply the existence of a pristine and static Iñupiaq culture in the past. Rather, I use it in a similar manner as Ernest S. Burch does in his ethnographic and ethnohistoric work on the Iñupiat, namely, to refer to the time of increasing contact with Euro-Americans around the mid-nineteenth century, and before 1890. There is a pragmatic reason for this. Burch produced a voluminous and rich work with very fine-grained reconstructions of Iñupiaq society as it was at the time of contact, building not only on earlier accounts and descriptions by explorers, traders, missionaries, and ethnographers, but also on decades of ethnographic research across Northwest Alaska. I draw upon these ethnohistoric reconstructions, together with the ethnographic and regional literature from the twentieth and twenty-first century, especially since the 1970s, and my own data, in order to trace historical developments and culture change. In doing so, I am particularly interested in finding out what might explain differences between my own and other studies' observations, and the ethnohistoric reconstructions.

In addition to the diachronic and historical perspective, I will also employ, when possible and appropriate, synchronic comparison, be it in the form of regional comparison or comparing the Iñupiat with other as hunter-gatherer or transegalitarian[2] societies. The diachronic and synchronic perspectives are different but complementary paths to find causal relations between phenomena. For example, to investigate how cash income might influence involvement in subsistence activities one can look at how these elements evolve over time in one society or group, from a time with no or little cash to a time with higher levels of cash income. The same relationship can be studied synchronically, by looking at different groups with similar conditions but different levels of cash income. I will make use of both perspectives, diachronic and synchronic, based on the ethnohistoric reconstructions, the ethnographic literature, and my own data. The temporal frame is limited to the period from the time of (intensifying) contact

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[2] The term refers, as it will be discussed later, to societies that are neither egalitarian nor ranked, but rather in-between.

with Europeans and U.S. Americans during the nineteenth century until our days. The spatial frame is given by the regional literature on arctic and subarctic Native populations of North America. In the Alaskan context, the research includes several cultural groups, while in the Canadian context the literature is mostly (if not exclusively) on the Inuit. The focus in this thesis lays primarily on Inuit (or 'Eskimo')[3] groups, and especially on the coastal Iñupiat from Alaska.

1.4. Theoretical framework

This thesis is rooted in the field of environmental anthropology, which emerged in the 1990s as an umbrella for the various approaches dedicated to the study of human–environment relations. In particular, I draw on theories and concepts grounded in cultural and human ecology, ecological anthropology, political ecology, and human behavioral ecology. As Greenberg and Park (1994, 1) note, new approaches and paradigms in the social sciences tend to appear as reactions and oppositions to the predecessors:

> We are forever slaying old paradigms. Instead of standing on the shoulders of our predecessors, we take an ax to their knees. As each new approach goes after its precursors with an ax, the social sciences have come to resemble, as Eric Wolf (1990:588) so poignantly phrased it, "a project in intellectual deforestation."

In this way, while theories and models are recycled and terminologies re-written, the quest for self-assertion of each new approach may overemphasize their ruptures with the older ones at the expense of exploiting potentials for synthesis and integration. And it is precisely a synthesis and integrative framework what today is still considered to be lacking and a to be a major challenge in environmental anthropology (Brondízio, Adams, and Fiorini 2017). It is in this spirit, that I draw on diverse approaches, attempt to explore some of the ways that different but related approaches might be integrated and complemented, not pretending here to elaborate a new synthesis, but modestly contributing to a conversation about its possibilities.

Cultural ecology has been the common root for many of the approaches in environmental anthropology. Cultural ecology is concerned with the relationships between culture and environment. Assuming that culture is an adaptive mechanism, it aims at understanding the

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[3] The term 'Eskimo' is an exonym (non-native designation) has been used to refer to culturally and linguistically related groups, including Greenlandic Inuit, Canadian Inuit, Alaskan Iñupiat, as well as Alaskan and Siberian Yupik. While in Canada the Inuit have rejected the term Eskimo, in Alaskan villages people still use it to refer to themselves. However, this has begun to change recently, and many Iñupiat now reject the term for its colonial connotations. Because the designation Iñupiat is less known outside from Alaska, in regional and international arenas the term Inuit is usually used to include Alaskan Iñupiat. While 'Iñupiat' refers to the name of the people, 'Iñupiaq' is the singular form and the adjective, as in Iñupiaq language or Iñupiaq society.

range and diversity of cultural adaptations. Cultural ecology has its origins in the theories and methods advanced by Julian Steward during the 1950s. In his view, the specific configurations of environment, subsistence, and technology of a society determine the social and political arrangements. Marxism probably had a significant influence in Steward's cultural ecology, although it must have remained implicit given the political atmosphere of the United States in the 1950s. Steward (1955) proposed a distinction between what he named the culture core and the secondary features of society. The culture core is "the constellation of features which are most closely related to subsistence activities and economic arrangements" (Steward 1955, 37). Which particular elements of a culture belong to its core, was for Steward a pure empirical question, and they have to be identified and described in each particular case. Features may not limit to the activities, techniques, and technologies of subsistence, but may include elements of the social and political organization, rituals, or religious beliefs. Secondary features are less close to subsistence and economy and are therefore determined by the culture core, but are also subjected to greater variability through diffusion and historical contingency.

Steward's cultural ecology was at the same time a method for the empirical study of cultural adaptations as well as a theory of culture change. In addition to the concept of culture core as the interface between society and environment through technology and subsistence, another important concept in Steward's work is the levels of sociocultural integration. The concept refers to the level of complexity in the sociopolitical organization of a society, which can range from rather independent (nuclear) family groups to states, with a variety of different forms in between through increasing levels of interdependency between groups and their integration into larger political structures. For Steward, different levels of sociocultural integration are functionally interrelated with the specific productive processes of a given society. Thus, elements such as property rights, group ceremonialism, political offices, and kinship systems, are adaptive responses to organizational requirements of specific productive arrangements. Cultural ecology thus has a holistic and functionalist perspective on culture, considering every element to be functionally interdependent.

Ecological anthropology developed since the 1960s, e.g. in the works of Marvin Harris, Roy Rappaport, and Andrew P. Vayda, building on the legacy of Steward's cultural ecology and incorporating advances in systems theory and systems ecology. These approaches took human populations as the unit of analysis, were concerned with measuring flows of energy and nutrients, and were usually based on the assumption that systems (ecosystems, societies) are in or tend towards a state of homeostatic equilibrium. Therefore, sociocultural adaptations were

commonly considered as mechanisms to maintain or restore the equilibrium of the ecosystem in which a give human society is embedded.

In this context, one influential model has been Marvin Harris' cultural materialist theory of sociocultural systems. Heavily influenced by Marxism, Leslie White's theory of cultural evolution, and Julian Steward's cultural ecology, Harris (1979, 1994) advanced a model of sociocultural systems composed of three levels: infrastructure (production and reproduction), structure (economic, social, and political organization), and superstructure (ideology, rituals, religion, etc.). Harris proposed a causal principle, which he named infrastructural determinism, according to which the infrastructure of a sociocultural system probabilistically determines its structure, which probabilistically determines its superstructure. In this model, positive and negative feedbacks that flow from each level to its underlying one and either augment or dampen changes in the system. This model has been further developed and applied in ecological anthropology (Ellen 1982) and macrosociology (Nolan and Lenski 2009; Elwell 2013).

There have been several problems with these approaches, often been referred to as neofunctionalism. Orlove (1980) has summarized the shortcomings and criticisms in the following way. First, there is the functionalist fallacy, which assumes ecosystems are in equilibrium, where elements are functionally interrelated as if it were in a closed system, and based on the idea that populations remain at or below carrying capacity. Second, there is ecological reductionism, in which aspects of social organization are considered only to serve the goal of adaptation by local populations to their environments, while neglecting other factors that might be at play or in some cases even more important than ecological ones. Third, and related to the former, there is an overemphasis on energy as limiting factor, while neglecting the role of political economies. Hence, everything was accounted for in terms of calories or proteins. Forth, the was the problem of an exclusive focus on local populations as the unit of analysis, considering them rather isolated and self-sufficient, and ignoring supra-local process (e.g. markets, states) as well as internal differentiation. Fifth, an emphasis on equilibrium led to a disregard of longer time scales, disconnecting the analysis of synchronic equilibrium and function with processes of change.

Processual approaches in ecological anthropology as well as political ecology emerged as response to the shortcomings of the rather apolitical, homeostatic and overly functionalistic approach of neofunctionalist ecological anthropology. The term political ecology was first coined by Eric Wolf (1972) in a paper about ownership and inheritance in the Alps, where he emphasizes the importance of a processual perspective and the need to link local ecologies with external political and economic forces. In that paper, Wolf argues that particular patterns of

ownership and inheritance, and the way they change, need to be understood not only in terms of ecological variables, but also in relation to the actors that utilize and transform those systems of rules for their own interests. Furthermore, Wolf's plea for linking external economic and political forces (e.g., non-local elites, larger political systems, markets) underlines the "need to view local life in a dialectical relationship with the larger man-made environment" (Wolf 1972, 202), or what we may also refer to as the social environment in addition to the natural environment.

Wolf developed these of research further in his later work, most notably in his book Europe and the People Without History (Wolf 2010[1982]), where he considers the "modes of existence before European expansion and the advent of capitalism, and the manner in which these modes were penetrated, subordinated, destroyed, or absorbed, first by the growing market and subsequently by industrial capitalism" (Wolf 2010[1982], 23). Building largely on Marxist theory, his analysis is centered on the concepts of social labor and modes of production, which is of particular relevance for this thesis. Social labor refers to the work patterns in a given society and the social relations that bond people involved in those productive activities. The term production refers to the "complex set of mutually dependent relations among nature, work, social labor, and social organization" (Wolf 2010[1982], 74). A mode of production is a mode to deploy social labor with specific types of social relations organizing production.

Wolf (2010) defined three modes of production differently as Marx did: the kin-ordered, the tributary, and the capitalist modes of production. Of particular relevance here, is that in the kin-ordered mode of production, kinship is the main mechanism for deploying and mobilizing labor through appeals to filiation and marriage, and to consanguinity and affinity, as culturally defined in a give society. Although it can be argued that social labor among hunter-gatherers may not exclusively follow kinship principles, as we will see later, kinship was the overarching principle organizing labor and social life among the Iñupiat, as every social relation was in one way or another framed in the idiom of kinship.

The concept of the kin-ordered mode of production is relevant to the present study because of two reasons. First, the mixed economy implies the merging of a kin-ordered with a capitalist mode of production, where kinship might be at least partly displaced in its role to mobilize social labor. Second, while new forms of social labor (e.g. wage labor) emerge, traditional kinship arrangements persist in the mixed economy, and it is through kinship that the subsistence and market sectors of the mixed economy are articulated. The spread of capitalism and its combination with other modes of production has resulted in many cases in "syncretic modes [that] not only retain some indigenous ingredients, but creatively rework those forms

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imposed upon them to meet their own needs" (Greenberg and Park 1994, 7). As it will be seen later, this has been a common argument in the research on subsistence and mixed economies in Alaska and the Arctic.

Political ecology may be seen not merely as a reaction to but an outgrowth from cultural ecology and ecological anthropology. Rather than eschewing or replacing the ecological approach, it sought to correct its shortcomings and complement ecological analysis with political economy, by bringing up questions about conflicting interests and unequal distribution of power and wealth among individuals and groups, in order to explain sociocultural phenomena and change. In fact, the two intellectual and theoretical foundations of political ecology are "political economy, with its insistence to link the distribution of power with productive activity and ecological analysis, with its broader vision of bio-environmental relationships" (Greenberg and Park 1994, 1).

Since the pioneering works of Eric Wolf, Sidney Mintz, and others, political ecology has diversified into a plural and interdisciplinary field, with different approaches and foci. Nevertheless, according to Robbins (2020, 16), political ecologies tend to share the assumption "that environmental change and ecological conditions are the product of political process". This, however, has been subjected to criticism, especially when it is meant that ecology and environmental change are *always* a product of political forces. Vayda and Walters (1999) criticize the a priori assumption that "political influences from the outside, from the so-called *wider* political-economic system—are *always,* important, arguably more important than anything else, and should accordingly be given priority in research". For Vayda and Walters, an overreaction to the 'ecology without politics' of the 1960s and 1970s became 'politics without ecology', with a narrow and exclusive focus on the politics of natural resources, while neglecting the complexity and contingency of interrelated factors involved in environmental change. Another criticism to approaches dominated by political economy and world-systems theories, is that an overemphasis on the external forces of global capitalism and larger political economies has often rendered local communities as being passively transformed and absorbed, stripping them away of any agency in that process (Lee and Solway 1990).

Another attempt to address the shortcomings of ahistorical neofunctionalism has been Brian Ferguson's (Ferguson 1995, 1999) revision of Harris' cultural materialist model. In relation to the problems of time scale in early ecological anthropology, there had been "a sharp disjuncture between synchronic equilibrium and long-term macroevolution corresponding to the separation between the neofunctionalists and the neoevolutionists" (Orlove 1980, 245). Ferguson (1995) has addressed exactly this issue, taking his research in the People of Puerto Rico project as the

starting point. In that project, Julian Steward and several of his students (Eric Wolf and Sydney Mintz) conducted an ethnographic research in order to study sociocultural variation in rural Puerto Rico, in particular the different types of farm production, as well as to clarify and refine the concepts and methods of Steward's cultural ecology (Steward et al. 1956). In contrast to earlier studies in cultural ecology, the People of Puerto Rico project presented a case of colonial sugar plantations in a complex society, in which neither history nor the political economy beyond the local could be ignored. As a result, Ferguson (1995) found that, while infrastructural variables (ecology, production, reproduction) set the main constrains for sociocultural forms, they were insufficient to explain variation and historical developments in Puerto Rico. Rather, one must turn to structural (social, economic, political) factors and external forces from the larger political economy (or social environment), such as the action of corporations and cartels, political lobbies, government policies, and factionalisms, in order to explain variation and transformation of local economies and ecologies.

Therefore, Ferguson (1995) argues that, while infrastructural variables may account for long-term, macroevolutionary changes in the course of centuries or millennia, they may not be the exclusive or even the main factors at stake when looking at historical change, because there are usually many factors at play operating simultaneously within and on each level. Consequently, he revised the causal principle proposed by Harris in order to account for more causal latitude within each level, as well as for factors from the social environment (e.g. interactions with other society) that effect changes directly on each level of the system, without going necessarily through the infrastructure–structure–superstructure causal chain. Ferguson (1999) has formulated the revised principle as a "nested hierarchy of progressively more limiting constraints", in which "the infrastructure is the primary, general determinant of sociocultural form, but that other causal relationships must be sought to explain many sociocultural patterns". This allows for a certain degree of causal autonomy within each level, which is limited by the range of possibilities determined by its underlying level. Ferguson (1992, 1999) applied this model further to explain the complex effects of contact on Yanomami warfare, an approach which I emulated elsewhere (Buela 2016) in order to explain the effects of contact and recent history on Iñupiaq mixed economies.

As mentioned above, another important problem with early cultural ecology and ecological anthropology was that, by only concentrating on populations and sociocultural wholes, it left unexamined issues of heterogeneity and internal conflict within communities. A functionalistic perspective and a reliance on the problematic ideas of homeostatic equilibrium and group selection, did not allow to consider conflicting interests and goals as well as variability in

behavior within groups (Kelly 2013). Such critique came as much from a Marxist perspective as from human behavioral ecology. As Orr, Lansing, and Dove (2015, 157) put it: "Systems ecology provides tools to investigate the consequences of decisions but has nothing to say about decision-making processes. Behavioral ecology fills this gap with an expanding repertoire of models for decisions, linking outcomes with their consequences for fitness."

Grounded in evolutionary biology, human behavioral ecology typically applies models rooted in microeconomics in a deductive way, in order to model decision-making in relation to ecological variables, against the backdrop of the Darwinian principle of natural selection. Taking the individual as the locus of selection, human behavioral ecology is interested in individual decision-making and applies optimization models to understand how people allocate time among alternative and competing activities that entail varying costs and benefits, where choices imply trade-offs and opportunity costs (Kelly 2013). Human behavioral ecology does not reduce behavior to biology, rather, it assumes that individuals make choices in culturally prescribed ways among a range of possible behaviors and strategies (Kelly 2013). Those behaviors that are more adaptive to particular (natural, social, and cultural) environmental conditions increase the reproductive success or fitness of individuals and are therefore selected for over time, spreading and becoming prevalent within a group (Kelly 2013). Nevertheless, one may argue that does reduces sociocultural phenomena to individual decision-making and ecology, while culture (as values, norms, etc.) is often 'black-boxed' and left unexplained.

Since the 1980s, cultural ecology has come to be often regarded as a subfield of human ecology (Sutton and Anderson 2018) and has moved towards studying historical processes and the links of local adaptations to larger economies, considering adaptation to social environments in addition to natural ones. In doing so, cultural ecology and human ecology have addressed contemporary issues of economic development and integration of cash-earning activities in subsistence economies (Grossman 1981), as well as problems of resource management, environmental degradation, and climate change (Sutton and Anderson 2018). This shift in and expansion of interests and approach in human ecology is expressed in a recent editor's note to the 50th Anniversary of the journal *Human Ecology*, as follows:

> In contemporary ecology there is never an assumption of timelessness or isolation. While historical change and external influences might once have been regarded as annoying distractions from or distortions of indigenous systems, they have now become the focus of attention. Earlier ecologists tended to ask how traditional behaviors enabled a population to maintain itself in a specific environment. Today we are more likely to ask: What are the problems confronted by the populations in this place? How do individual actors deal with

them? And we are far more likely today to be aware of the fact that not all members of the group may share the same problems to the same degree. Contemporary human ecology emphasizes the role of decision-making at the individual level as people strategize and optimize risk, costs, and benefits. (Bates, Lozny, and Tucker 2022, 1–2)

One issue lying at the core of the debates between different approaches in environmental anthropology is the dichotomy of holism versus individualism, i.e. the focus either on wholes or on individuals to explain sociocultural phenomena and change. The issue is a methodological as well as a theoretical one, as it entails the question whether structural causality or self-interested individual behavior are to be prioritized in explanations and therefore constitute the subject of empirical research. This dichotomy is related to the long-standing debate in economic anthropology between formalism and substantivism, as to opposing theories of economic motivation. While formalism saw economy as the result of the maximizing and optimizing economic behavior of rational, self-interested individuals, substantivists claimed that economy is an instituted processes embedded in society, and that economic behavior is not shaped by material self-interest of individuals but is rather dictated by cultural norms (Earle and Johnson 2000). We find a similar dichotomy between cultural and human ecology on collective patterns and sociocultural wholes, on one hand, and human behavioral ecology on individual decision-making on the other. Although these are often seen as competing paradigms, they can be understood as two sides of the same coin (Earle and Johnson 2000).

As stated in the beginning of this section, I attempt here to integrate these diverse but related approaches and concepts in environmental anthropology, in order to explore some ways in which they can be integrated. I am interested in exploring ways in which both perspectives, individualism versus holism, might be integrated towards a synthesis, in order to consider processes of individual decision-making and strategizing within the emergent structures and dynamics of sociocultural systems. For this purpose, I will ground my analysis in a theoretical framework that builds as much on the method of cultural ecology, a revised cultural materialist research strategy, and a political ecology and political economy approach. At the same time, following contemporary developments in human ecology, I attempt to incorporate considerations of individual decision-making and strategies, not only grounded on human behavioral ecology, but also on more sociologically grounded approaches such as the dual-processual theory, which I discuss in chapter four.

I draw on the theory and method of cultural ecology as formulated by Steward, in order to analyze first "the interrelationship of exploitative or productive technology and environment" and then those "behavior patterns involved in the exploitation of a particular area by means of

a particular technology", and finally "ascertain the extent to which the behavior patterns entailed in exploiting the environment affect other aspects of culture" (Steward 1955, 40f). Because of the particular phenomena studied here, I will give more attention to the social environment than to the natural environment, although I will consider both.

I draw on the approach and concepts of political ecology for two main purposes. First, in order to raise questions about how ownership and control over resources and labor shape social relations, and how and why they transform. Second, in order to analyze these transformations in its historical and contemporary interactions with the external forces from the larger political economy, such as regional and global markets, government policies and state structures, as well as material and technological dependency from industrial society.

I intend to integrate questions of individual decision-making, their associated cost-benefit relations and trade-offs, but also the cultural norms and values involved, as well as the political strategies by individuals and groups to control resources and labor, to gain influence and power. These concerns, as I have discussed here, are central not only to human behavioral ecology but also to modern cultural and human ecology as well as approaches grounded in political economy. Integrating a systems approach with actor-based approaches may represent a challenge, but has also advantages. Individuals make decisions that can aggregate into new patterns and transform existing structures. However, individuals always behave within a specific sociocultural context, which acts at the same time as constraint and as resource for people to pursue their interests (Blanton et al. 1996). Those sociocultural contexts may not be explained solely through the actions of individuals, as it consists of structures and systems with emergent properties and dynamics. At the same time, a systems perspective may not be enough to illuminate individual processes of decision-making. Therefore, linking the micro and the macro levels, the holistic and individual perspectives, is of paramount importance.

I believe any attempt to put together different approaches into an integrative framework should take place within some kind of a larger, more general, and more abstract theory of culture that can encompass and articulate other theories about other kinds of phenomena, and at the same time be compatible with other fields such as ecology and biology. I think that a theory of sociocultural systems, in the style of that proposed by Harris (1979, 1994), with its necessary improvements and adaptations such as those by Ferguson (1995) described above, as well as with advancements in other fields (e.g. complex adaptive systems, coupled social-ecological systems, and the like), can provide a useful starting point for an integrative framework. It must be noted that Harris' model was already a synthesis of several approaches and theories that anteceded him. Such a theory however, must be theoretically coherent enough in order to guide

research and hypothesis building, but flexible enough to allow an inductive approach guided by open questions.

1.5. Organization of this thesis

Following this introduction, the second chapter of this thesis is centered on the issue of subsistence in the mixed economy, and around the questions on the integration of subsistence and market economies, as well as the effects of new technologies, cash, and wage labor. I begin with a general discussion on the concept of subsistence and hunter-gatherers, after which I move on to discuss the meanings and uses of subsistence in Alaska and the Arctic and review the literature on mixed economies. After that I describe how subsistence has been historically been transformed since contact with Europeans and U.S. Americans. Finally, I present my own data with the ethnographic case study of the community of Wales, Alaska. This constitutes the 'hows' and 'whats' of subsistence that Wenzel (2013) has referred to.

In chapter three, I turn to the social organization of the mixed economy and address the question about the changes in the social relations that organize subsistence activities and allocate resources, in particular the division of labor, domestic organization, kinship, and sharing. In Wenzel's (2013) formulation, this social relations and institutions articulate the integration of monetized and subsistence resources and activities. For this purpose, I first describe the traditional social structure of the Iñupiat and discuss some of the major continuities and changes in this respect. Subsequently, I describe the traditional division of labor, which continues to a great extent to organize subsistence. After that, I turn again to my own ethnographic case study describe in detail how subsistence hunting is organized in Wales. Finally, I address discuss how sharing, distribution, and exchange, might change in the mixed economy, by reviewing the relevant literature.

Chapter four is dedicated to the questions around the issues of leadership and social inequality. After discussing some of the meanings and approaches in studying social inequality, I move on to describe and discuss the traditional patterns of leadership and social inequality among the Iñupiat. In doing so, I discuss the ethnohistoric literature in the light of theories and discussion on this matter from the fields of hunter-gatherer and social inequality studies. In the last section, I describe how these patterns have been changing in recent times and discuss some of the processes and factors that might explain these transformations in leadership and social inequality.

In chapter five I discuss and summarize the findings of my case study and the review of the literature in relation to subsistence, leadership, and social inequality in the mixed economy. I do this by relating the issues discussed in each chapter as well as to more general theoretical and methodological issues.

2. Subsistence and the mixed economy

Subsistence occupies a central role in the literature on both hunter-gatherers and circumpolar mixed economies. It deserves such particular attention not only because it is essential for human survival, but also because it shapes much of the social life and culture of foragers as well as other small-scale societies, where most people are engaged in some way or another in those activities almost on a daily basis. Research on mixed economies and social change among extant hunter-gatherers has raised questions about the effects that the integration of cash, extra-local goods, and wage labor have on subsistence economies that have been traditionally based on hunting, gathering, and fishing.

In the North American Arctic, subsistence has become a highly politicized issue. On the one hand, governments have created legal frameworks that regulate the use of natural resources, including fish and game for subsistence uses by indigenous peoples. On the other hand, Native peoples have embraced subsistence as their distinctive way of life and identity, both in their struggles for rights and access to land and resources, as well as in fostering social cohesion and well-being of their own communities.

In this chapter, I will examine the role and the transformations of subsistence in the contemporary mixed economy of Iñupiaq hunter-gatherers. Because of its generalized use for diverse purposes, subsistence has confounded many different phenomena. Therefore, I will start with a discussion of some of the meanings of subsistence and its relationship to the category of hunter-gatherers, as well as the differences in emic and etic understandings of subsistence in its social and political context. Subsequently, I will discuss the literature on the integration of cash, wage employment, and subsistence in contemporary mixed economies in Alaska and Canada. After that, I will sketch the major historical developments that have transformed Iñupiaq subsistence systems, from the mid nineteenth century with the advent of commercial whalers and traders until the present. I will dedicate the last section to my own ethnographic case study, describing contemporary subsistence hunting and the cash-wage economy in the community of Wales, Alaska, based on the data collected during fieldwork in 2015 and 2016.

2.1. Subsistence: anthropological concepts

In common language, subsistence is usually defined as the means that people deploy in order to subsist, that is, to continue to be alive. Usually, it refers to a minimum state of existence or the minimum means to support life, such as food and shelter. We may discern two different meanings: first, the (material) means or sources that support life and enable individuals or groups to (further) exist; and second, a state of existence at minimum, in which basic needs are covered but no more. The former is implied in the latter, but the second does not follow automatically from the first. In other words, one can refer to subsistence as the means and sources through which life is supported, even though these means and sources may be utilized in a way to ensure more than minimum material existence.

Such distinction lies underneath two uses of the word subsistence in anthropology and social science. First, subsistence depicts a certain class of phenomena, distinguished from, say, settlement patterns, social organization, or religion. In this sense, subsistence has been commonly used to refer to food-getting practices, although it encompasses more generally all those practices destined to appropriate and transform natural resources through work and technology in order to support human life. From this perspectives, the diverse range of human subsistence techniques can be classified into categories for cross-cultural comparison or building theories of social evolution, the most common and simple being that of hunter-gatherers, horticulturalists, pastoralists, and agriculturalists.

In the second common use, subsistence is used to modify or describe another noun and thus refers to a type of activity or entity. Therefore, we usually find the word in a pair: subsistence economy, subsistence hunting, subsistence agriculture, etc. In this case, subsistence denotes a specific way in which resources are appropriated, used, distributed and consumed. It is to some extent related to the second common use of subsistence described above, i.e., the minimum required to exist or support life. In a subsistence economy, resources are appropriated and produced mostly for own consumption and some exchange, rather than for exchange in markets and profit-making. Surpluses might be produced, but these are typically (re)distributed and exchanged along kinship lines. Hence the common distinction between subsistence and market economies. The concept of subsistence economy does not say anything about which and how resources are produced or appropriated, i.e., it says nothing about the type of food-getting practices or the mode of subsistence. Thus, we may have subsistence economies based on foraging, horticulture, pastoralism or agriculture, or some combination of these.

Subsistence refers to the means through which societies collectively appropriate and utilize the energy and resources needed to support both biological and social life. Subsistence entails different kinds of interrelated phenomena, including resources, artifacts, techniques, skills, knowledge, and work patterns. Thus, subsistence has been often conceived as a distinct class of phenomena that can be analytically abstracted and distinguished from other classes of phenomena, such as settlement, social organization or religion, for the purposes of classifying empirical data and discover causal relations.

Already since the beginning of social theory in the nineteenth century, there was the idea that different forms of subsistence might be associated with different social forms. Such thoughts are found in some early social evolutionary theory and also in Marxist social theory. Throughout the twentieth century, this idea constituted one of the basic premises for several theories and approaches, such as cultural ecology, ecological anthropology, evolutionary anthropology, and Marxism. Despite differences and discrepancies, they all share the conviction that subsistence production plays a central role in shaping social institutions and cultural practices.

Most commonly, subsistence has been thought of as food-getting practices, but it also may include a variety of other activities such as obtaining fuel for cooking and heating as well as raw materials needed for tools, shelter, and clothing. The totality of the techniques utilized by a group to harness energy and resources from the environment may be referred to as its mode of subsistence or subsistence strategy. Ellen (1982, 128) defines it in the following way:

> Every human population employs techniques in order to appropriate resources from the environment. Each technique is a combination of material artifacts (tools and machines) and the knowledge required to make and use them. Usually a single population will employ a range of such techniques which together constitute a mode of subsistence or – emphasizing its adaptive and coping aspects – a subsistence strategy.

The concept of subsistence technique, as Ellen (1982, 128) emphasizes, "operates at the level of technical relations of production" and does not provide information about the social relations of production. In other words, it refers to the technologies applied to appropriate and transform resources, which includes material culture and knowledge, but says nothing about the way in which such techniques are organized and regulated through specific sets of social relations. Ellen (1982, 128) distinguishes between six basic types of subsistence techniques:

> 1. gathering of vegetable species; 2. collecting of animal species and their products (small game, insects, honey, …); 3. fishing; 4. hunting and trapping; 5. animal husbandry (including

fish farming); and 6. plant cultivation. The first four involve the procurement of *non-domesticated resources*, the last two the procurement of *domesticated resources*.

A pattern including one or more of these types of subsistence techniques constitutes a mode of subsistence, and as "part of a wider economy the mode of subsistence becomes incorporated into the means of production" (Ellen 1982, 128)

Emphasizing the fact that subsistence implicates a set of techniques, including tools, skills and knowledge, Harris (1979) has preferred the concept of 'technologies of subsistence', which are applied to particular ecosystems with particular work patterns in what he called techno-environmental relations. These technological and ecological factors in relation to subsistence constitute together what in cultural materialism is termed as the mode of production,[4] which together with the mode of reproduction (demographic variables) constitute the infrastructure of sociocultural systems. In contrast to Marxist theory, the mode of production according to cultural materialism does not include the relations of production (i.e., social relations that regulate and organize production), but only what in the Marxist vocabulary is understood under forces of production.

Classifying societies according to subsistence has proven to be of great utility because it points to similarities and differences between societies, which go beyond the superficial fact that they obtain energy and resources through a similar range of techniques. Societies belonging to the same type change and manipulate their ecosystem to similar degrees, and share similar sociocultural features such as population densities, settlement patterns, forms of social organization, and levels of inequality. Moreover, such classifications of societies have proven fruitful, though still disputed, in constructing models of sociocultural evolution.

Nevertheless, a great deal of variability exists within these categories, to the extent that their utility becomes limited and has been put into question. In order to overcome this shortcoming, these broad categories can be further classified into sub-categories that are more specific. By way of illustration, hunter-gatherers can be classified following different criteria into simple and complex, or into foragers and collectors. Agrarian societies are classified into simple horticulturalists and advanced agriculturalists, or into extensive and intensive agriculturalists. Additionally, we have industrial societies, which can be considered a further type of agrarian society, i.e., industrialized agriculturalists.

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[4] This should be distinguished from the Marxist concept of mode of production, which entails both the productive forces (i.e., labor and means of production) and the social relations of production. Harris' concept of the mode of production corresponds to the Marxist productive forces.

As Ellen (1982, 170–6) points out, there are also some limitations and difficulties when describing subsistence and creating types. For example, while some societies may have an easily recognizable dominant subsistence technique, others may utilize a more or less balanced combination of several techniques, making it difficult to put them into one single category. Furthermore, a lack of standardize criteria for identifying dominant subsistence techniques can lead to a wrong assessment of their relative importance within a given society.

Hunter-gatherers are typically defined as a type of society that primarily subsists on wild, non-domesticated resources, i.e., obtaining wild foods and other resources from the environment. Thinking of hunter-gatherers as an economic type "presupposes that the technological and economic similarities between all hunter-gatherers unify their cultures to a sufficient degree that they can profitably be compared to each other" (Sutton and Anderson 2010, 133–134), despite significant variations on social and political structure. For example, by utilizing similar technologies for subsistence, hunter-gatherers have, to some extent, similar impacts on their environments. A central aspect in this respect is that hunter-gatherers do not control the reproduction of the species they rely on, and their human ecosystems are usually described as rather 'pristine' and less 'artificial' than those of agricultural and pastoral societies. This, however, does not mean that hunter-gatherers do not manipulate and transform their ecosystems, but rather that they do it in specific ways, and mostly in a lesser degree, compared to other societies.

There is a great deal of variability in subsistence strategies across past and extant foraging societies. Hunter-gatherers deploy a great diversity of subsistence techniques, technologies, and strategies across different environments and ecological settings, and, in many cases, foraging is combined with other subsistence techniques such as horticulture and also trade with non-foraging neighbors. Anthropologists and archaeologists have been aware of this diversity already since the beginnings of modern hunter-gatherer studies during the 1960s (Lee and DeVore 1968). For example, Lee (1968) found that the relative importance of gathering, fishing, and hunting among foragers varies in that order with increasing latitude. Variability in foraging strategies have been reviewed and modelled by Kelly (2013) according to gross dietary and environmental variables.

In studying hunter-gatherer subsistence patterns, it is necessary to consider the issue of mobility. Mobility, defined as the seasonal movements across a landscape, has been identified as a central feature of hunter-gatherers, and mobility strategies considered as "one facet of the way in which hunter-gathers organize themselves in order to cope with problems of resource acquisition" (Kelly 1983, 277). Binford (1980) introduced a very useful distinction between

residential and logistical mobility. While residential mobility refers to the movements of whole groups or camp from one patch to another, logistical mobility denotes the movements of individuals or task-groups back and forth from the camp or settlement for foraging purposes. Both types of mobility are present in virtually every foraging society, however in different forms and degrees according to environmental variables (Kelly 1983). Residential and logistical mobility can be understood as two organizational principles constituting a continuum along which hunter-gatherer subsistence and settlement systems can vary.

Despite its trivial allusion to a mode of subsistence, hunter-gatherers are anything but a straightforward, uncontested category. On reason for this is that hunter-gatherers have been often defined at the same time economically and sociopolitically, and while "there is a degree of fit between 'forager' subsistence strategies and [egalitarian] 'band' social organization […] the fit is far from perfect" (Lee 1992, 31). In order to account for variability in economic and social organization, different typologies have been developed. One example is the distinction between immediate and delayed-return systems, referring to the immediate or delayed consumption of what is produced, which correlate with egalitarian or non-egalitarian sociopolitical orders respectively (Woodburn 1982). Another example is the distinction between simple (or generalized) and complex hunter-gatherers. The former are egalitarian, highly mobile, and have low population densities, among other features, whereas the latter are non-egalitarian, more sedentary, with higher population densities and occupational specialization.

Another problem in hunter-gatherer studies has been the question whether extant foragers represent pristine remnants of an evolutionary past, or rather products of recent history, world-systems, and modern capitalism. While these extreme and rather simplistic formulations have been largely recognized as wrong assumptions, the debates around these issues have put into question the validity of the category altogether, questioning the idea of foraging as a distinct way of life. Nevertheless, despite the variability, hunter-gatherers do differ statistically from other societies in many ways, and, despites its limitations, the category continues to have a heuristic and analytic value for exploring causal relations between sets of distinctive forms of ecological, economic, and sociopolitical relations (Kelly 2013). However, the issues of long interactions between foragers and non-foragers, and the dependence of virtually all extant foragers on the exchange with neighbors and the larger economy, raise the question of when hunter-gatherers stop being hunter-gatherers (Peterson 1991, 2). Particularly relevant for the present case study and the research on contemporary mixed economies, is the question whether

it is possible that as well as being transformed by these external influences foragers may assimilate some, many or all of the intrusions and linkages with the dominant economy to their own internal social purposes and in so doing reproduce distinctive sets of economic and social relations (Peterson 1991, 2).

After this discussion, we are able recognize that creating systems of classification always implies some level of arbitrariness, and we might encounter difficulties when putting empirical cases into their categories. Classifications based modes of subsistence, such as the category of hunter-gatherers, is useful but has its limitations. Nevertheless, this should not be a reason to dismiss such classifications altogether but rather to recognize their limitations as well as to refine them. One thing to consider is which criteria we are using to classify what and for what purpose. Categories that are more general may be useful to study broad evolutionary trends and cross-cultural patterns, but categories that are more specific will be needed when we are interested in studying particular phenomena.

Mixed criteria that combine subsistence techniques with other features such as social organization and property relations, can also be useful to define and study social types. One such example is found in the category of 'smallholders', which Netting (1993) defines as small-scale intensive agriculturalists, in areas with high population densities, where the household constitutes the main economic unit producing for own consumption and participating in the market, and where land tenure is regulated by forms of common and hereditary property. The concept of the mixed economy, as it is applied to contemporary circumpolar hunter-gatherers, is of a similar kind: it is based on mixed criteria that combines modes of subsistence *and* social relations.

2.2. Emics, etics, politics: the social life of a concept

During the last six decades in Alaska, subsistence has become a highly politicized and particularly laden concept for several stakeholders, especially for Alaska Natives. After the Alaska Statehood recognition in the late 1950s, and with the development of already existing industries such as fisheries, forestry and mining, and in particular with the incipient oil industry, the need to settle land rights and to manage natural resources became increasingly important issues for industry and governments. At the same time and during the 1960s, a growing political movement of Alaska Natives developed in the struggle for their rights to land and access to resources, resulting in the establishment of the Alaska Native Federation. These processes of negotiations resulted in a series of laws that settled land claims and regulated the use of fish

and game for subsistence and commercial purposes, most notably the federal laws ANCSA (Alaska Native Claims Settlement Act) of 1971 and ANILCA (Alaska Native Interest Lands Conservation Act) of 1980, and the subsistence laws by the State of Alaska. Furthermore, the politics of natural resources used for subsistence by Alaska Natives is not always limited to the already complex federal and state regulations, but are often international or global matters of governance, as it is the case of salmon runs on rivers that flow from Canada into Alaska, or the case of whales that are globally regulated. Alaska Natives further organizations in order to claim rights to subsistence and to participate in co-management of resources. Examples of this are the Eskimo Whaling Commission and the Eskimo Walrus Commission.

Simultaneous to these developments, a growing body of research developed, much of which has been conducted by anthropologists and social scientists working for governmental agencies, primarily the Alaska Department of Fish and Game (Fall and Wolfe 2014; Fall 1990). The main goal of this research has been to understand subsistence practices by Alaska Natives, including resource use as well as the social and cultural dimensions, in order to inform policy. The result was the emergence of a field of its own that has come to be referred to as 'subsistence research' (Wheeler and Thornton 2005). This research set out during the 1980s to quantify and document in fine-grained detail the use of natural resources for subsistence by Alaska Natives across Alaska, in order to inform and justify a distinct and appropriate regulation of fish and game for subsistence use. Furthermore, following anthropological knowledge as well as claims by Alaska Natives, this research has increasingly documented and emphasized the fact that subsistence activities are embedded in specific sets of social relations, economic organization, and beliefs, and that subsistence use of resources have more than material-economic functions and value for Native communities (T.F. Thornton 2001).

For Alaska Natives, the political struggles and claims to rights for subsistence hunting, fishing, and gathering, has become more than a struggle for access to resources, but rather to their right to maintain and revive their cultural traditions and way of life, as well as to the well-being of their own communities. Subsistence has become a central issue in Native cultural identity, and this at many levels. Throughout the colonial encounter, Alaska Natives had been forced by missionaries, schools, and the state to abandon many of their cultural practices, beliefs, and values, as well as their language. Much of the efforts from within Native communities in urban centers and rural villages to strengthen cultural identity, social cohesion, and well-being, are centered on subsistence.

During fieldwork, I heard several stories from people who told me how engaging (again) in subsistence helped them recover from the various negative effects of social disruption,

alcoholism, depression, etc. Subsistence is promoted through activities, programs, posters and the like in order to encourage people to engage in it. One can observe how parents strive to teach and encourage their children to learn and engage in traditional subsistence, in the face of alternative ways of life. In this context, subsistence is conceived and promoted as more than only hunting, fishing, gathering, and processing wild foods, but rather as a way of life, including nurturing of social relations and cooperation, as well as cultural values such as sharing and respect for the elders. How much subsistence is intertwined with cultural and individual identity is expressed in this quote from an elder and hunter from the village of Wales: "It's hard to find identity nowadays. I try, I go out hunting, I eat this food". From this perspective, subsistence almost becomes synonymous with culture.

Moreover, while confronted with confronted with externally imposed notions of indigenism (Dombrowski 2007), subsistence has become a central, if not the main, element in Native identity politics, both at the local level and at wider political arenas. Within communities, collective identities around subsistence practices and foods can be used as cultural resources by leaders within communities in order to reproduce inequalities and to mask internal differentiation (Ready and Power 2018; Dombrowski 2007). At larger political arenas, such as in national and international contexts, subsistence is often embraced as the hallmark of Alaska Native cultures in order to claim rights to land, resources, and funding. At the same time, governments and legislation define subsistence in specific normative ways, e.g. by establishing which techniques and technologies are considered to be traditional and allowed for subsistence use of resources (Langdon 1991). An increasing incorporation of indigenous peoples into nation-states, has had as a result that those „lifeways once based around subsistence production have become critical political elements in claims to identity and property rights within a national and international milieu" (Dombrowski 2007, 211).

This social – and political – life of the concept of subsistence in Alaska, and the North American Arctic in general, reveals that subsistence has various uses and meanings for different stakeholders. These meanings overlap but also differ from each other as well as from the anthropological concepts of subsistence discussed previously. On the one hand, Alaska Natives have come to use subsistence nearly as the equivalent for culture and way of life, and in a rather particularistic way, i.e. to refer to their own culture and way of life as distinct and different from, say, American or Western cultures. On the other hand, anthropology usually understands subsistence to be a part or domain of culture, in fact of any and every culture, thus using the concept in a rather generalist or universalist way, in order to be able make cross-cultural comparisons.

It would be meaningless to ask whether one or the other use of the concept is better, correct, or more accurate. Both have their justified use and application in their own contexts for different purposes. Rather, we should understand this divergence as the emics and etics of subsistence. In anthropology, emics refers to the perspective of the native or insider, i.e., to the concepts, categories, statements, explanations, etc., that make sense within a particular worldview and cultural framework and are meaningful to the insiders or natives of that particular framework. Etics refers to the concepts, categories, statements, explanations, etc., that are meaningful to external observers within a particular analytic and scientific framework.

Certainly, there need not be a sharp line between both. Etics and emics might at times be at odds, or they might coincide and overlap. Moreover, there need not be a definite boundary between insiders and outsiders. Nevertheless, it is necessary that this distinction be drawn, for anthropological concepts must remain general enough to be applied to any other culture or society, and precise enough to be able to point to relationships between different elements of culture. In the end, the native use of subsistence is not that distant from anthropology's understanding of it. In the Arctic context, when indigenous peoples refer to subsistence as a way of life, they are highlighting the importance of how they carry out these activities, to the social relations in which these are embedded, and to the meanings that that these practices have to them, thus pointing to the holistic and multi-dimensional nature of subsistence and its interrelationships with the rest of culture. This, indeed, is an integral part of anthropological theory on this matter, and has particular resonance with the premises of cultural ecology.

2.3. Subsistence and cash: two perspectives

The question of the effects of market integration on subsistence has been at the center of subsistence research in Alaska since its beginnings. Studies have documented the use of natural resources by rural communities, demonstrating the continuing economic importance of subsistence hunting, fishing and gathering for indigenous peoples, while underlying the fact that subsistence has inevitably become intertwined with the market economy, in a relationship of interdependence (Wolfe and Walker 1987; Lonner 1986; Langdon 1991; Aslaksen et al. 2009). Nevertheless, there is still debate around the issue of how these two sectors of contemporary mixed economies interact and affect each other.

As Wheeler and Thornton (2005, 72) point out, we may identify two main positions in this debate: one that sees the two sectors as mutually supportive, and the other that conceives them as somehow opposing, conflicting and contradicting forces and creating or intensifying

inequalities. While the first position argues that indigenous mixed economies are successful adaptations to socioeconomic shifts and that people use cash to enhance subsistence, the second focuses on how markets, commercial activities, and wage labor are threatening and displacing subsistence practices. Closely related to this debate is the question whether mixed economies are persistent socioeconomic systems, or merely transitional stadiums of subsistence economies moving towards complete market dependence and integration into capitalist economy (BurnSilver et al. 2016).

One of the main points made by researches from the Division of Subsistence, is that subsistence hunting, fishing and gathering of wild foods continues to be the main economic base of most rural communities, still fundamental for their diets, health and well-being (Fall 1990; Fall and Wolfe 2014; Huntington 1992; J. Kruse 1986; Wolfe 1986; Wolfe and Walker 1987). Researchers argue that subsistence practices not only persist because of tradition, but also constitute a rational economic strategy and a successful adaptation to contemporary socioeconomic changes. In subsistence-based mixed economies, cash is invested in subsistence, e.g., for buying equipment and fuel, and combined with kin-organized labor, so that in the end the output produced in wild foods is higher than if that same cash would have been utilized for buying food in the stores (Wolfe 1983, 1). From the perspective of the mutually-supportive-sectors thesis, only a partial commercialization of some goods, resources, and activities has taken place, with production for subsistence but nor for profit (Lonner 1986). Cash and imported technologies, so the argument goes, are used for the economic objectives of subsistence production, rather than for profit-making like in market economies (Langdon 1991). Therefore, scholars argue that there is an interest and participation in markets, rather than a complete dependence on them (Lonner 1986).

Anthropologists from the Division of Subsistence of the Alaska Department of Fish and Game have been conducting research in order to inform policies for the management of natural resources, which is typically dominated by the natural sciences. By generating exhaustive quantitative data and documenting practices through ethnography,[5] this research has made valuable contributions to demonstrate the material, social and cultural importance of subsistence for Native communities. It has also demonstrated that the use of cash and new technologies do not in themselves imply a radical and qualitative transformation of the subsistence-based socioeconomic systems. Recent studies have substantiated many of these findings, making the case that mixed economies in Alaska are persistent socioeconomic

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[5] See: http://www.adfg.alaska.gov/index.cfm?adfg=subsistence.main

systems (BurnSilver et al. 2016; Ready 2019; Ready and Power 2018). However, this perspective fails to account for long-term trends in the relationships between subsistence and market economies, as well as to address the emergence or intensification of inequalities within and between communities (Ready and Power 2018; Dombrowski 2007; Van Lanen 2018).

On a general level, we might expect that increased involvement in the market economy might reduce subsistence foraging, because the more time and effort is invested in cash-earning activities, the less it will remain available for hunting, fishing and gathering. This seems to be the case when we observe the historical development from a complete and exclusive reliance on foraging to a combination of foraging and market-oriented activities, with an overall increasing dependence on cash and markets. The expected result is at least a partial shift in the investment of time and effort, from subsistence foraging to wage labor and commercial activities. We can observe this in the historical outline presented in section 2.4., though these developments followed a back-and-forth rather than linear movement from subsistence to market integration. This diachronic trend is corroborated by synchronic comparisons, which reveal a similar trend as the one described above. For example, in a comparative study of three Yupiq and Iñupiaq villages, Jorgensen (1990) found that increasing monetary wealth across the three communities due to greater availability of cash from oil revenues, commercial activities and wage employment, correlated with decreased engagement in hunting, gathering and fishing. Other studies have pointed to decreases in subsistence involvement among the Iñupiaq (Ready 2019; Ready and Power 2018) as well as the Inuit in Canada (Condon, Collings, and Wenzel 1995; Dombrowski 2007).

While higher cash income can reduce the overall involvement in subsistence of a community, it can have differential impacts on different subsistence activities and affect prey choice. With less time to spend in subsistence activities, and with more independence from local resources through cash and imported foods, people can reduce or even cease to harvest less desired resources, while continuing or increasing harvest of higher ranked resources. Criteria for such ranking can include the cost-benefit relation of pursuing the resource, the eventual monetary return of the resource, or the prestige gained form the activity and the resource. For example, in all three villages in the study by Jorgensen (1990) cited above, hunting of small rodents (low cost-benefit return) has been discontinued during the past twenty years, and "of 15 land mammal species available in the Wainwright region, only 5 are harvested, and 4 of them are harvested for their pelts. At Unalakleet [with less cash available], however, 18 out of 21 land mammal species are harvested" (Jorgensen 1990, 93). Some resources such as walrus provide, in addition to food, both a monetary return from the ivory

tusks and prestige for the hunters. Whaling not only can yield huge quantities of food, but also is perhaps the most prestigious of hunting and subsistence activities. In places like the North Slope, whaling has only but flourished with the cash influx from oil revenues, leading to a significant increase in the numbers of whaling crews since the beginnings of oil extraction (Huntington 1992, 44). My own observations from Wales suggest that individual hunting of smaller seals has diminished and hunting of large sea mammals by crews has been favored. Practices such as hunting seals through breathing holes and with kayaks have been, to the best of my knowledge, mostly if not completely abandoned.

In addition to the amounts of available cash, another factor to consider is the nature of the sources of cash income, which may affect how time and effort are invested in earning cash or in foraging. Whereas wage labor often acts as a restrictive factor for involvement in subsistence due to the time allocation problem, VanStone's (1960) study of the Iñupiaq community of Point Hope presents an ethnographic example in which wage labor had been successfully combined with subsistence, making the case for the mutually-supportive-sectors thesis. Since the demise of commercial whaling and fur trapping, most resources obtained from subsistence activities in Northwest Alaska cannot be commercialized, either due to a lack of markets for the products, or because of regulations. Thus, wage employment, e.g., in the construction of roads and infrastructure, was the main source of cash for the inhabitants of the traditional whaling center of Point Hope in the mid-twentieth century. Subsistence activities tend to be seasonal and vary across the year and much more so in arctic environments, where seasonality is most pronounced. The highest peak of activity in coastal communities, such as in Point Hope and Wales, is during the spring when people hunt whales, walrus, and seals that migrate northwards. During the summer, subsistence activities demand less workforce, and it was during the summer that people used to work for wages. In this way, wage labor can be incorporated in the seasonal round, solving the time and effort conflict, without great detriment of subsistence foraging.

However, while successfully combined with subsistence at the time of VanStone's study (more than sixty years ago), wage labor turned out to be rather a constraining factor for subsistence on the long run, given the increased dependence on money. In a comparative study of two Yupik communities in Southwest Alaska, where fishing is the main subsistence activity, Langdon (1991) shows that in one village where income is mostly earned by commercializing salmon, the overall involvement in subsistence is higher than in the other village, where wage employment constitutes the main source of cash income. The main difference between the two communities is that one has access greater salmon runs and to a more profitable species, allowing people to earn cash through the same traditional subsistence fishing with a reduced

need to turn to wage employment. Furthermore, state regulatory frameworks prevent people from accessing fishing grounds of neighboring villages, intensifying inequalities between communities. This case study demonstrates that whether subsistence and cash are mutually supportive or conflicting may depend on a combination of different factors, such as local availability of marketable resources, the type of sources of cash income in a given community, as well as regulation of natural resources.

In Wales, hunters with more or less permanent jobs reported to have difficulties combining them with subsistence, usually having little time and energy left to go hunting. Hunters with steady jobs and relatively fixed schedules do not have the flexibility to respond and adapt to the vagaries of the weather, currents, sea ice and animal behavior. Wage labor has not only constrained logistical mobility of hunters, but also residential movements of households and families to summer camps, further limiting the extent to which people can engage in other subsistence activities. In addition to the time and effort constrains, we have discussed in detail the challenges that the monetary costs of hunting pose to this activity. Cash constraints on mobility for subsistence have been reported and described among indigenous communities elsewhere in Alaska (Brinkman et al. 2014; Van Lanen 2018) and Canada (Condon, Collings, and Wenzel 1995), especially due to high dependence on motorized transportation, high prices of fuel in rural communities, and limited access to cash income.

Another issue raised by the perspective on subsistence–market economies as conflicting forces, is the issue of emerging inequalities, not only between communities, like in Langdon's (1991) case study, but also within communities. In another paper, Langdon (1986b) addresses the internal contradictions and conflicts that have arisen from the creation of Native village corporations through ANCSA. He argues that there has been a "dilemma in most Alaskan Native villages of balancing the subsistence orientation of most villagers (which nevertheless requires cash to sustain) with the development orientation of the village and regional corporations which must have substantial cash flows in order to survive" (Langdon 1986b, 40). Shareholders can pressure corporations to exploit natural resources at the expenses of subsistence uses, and conflicts may arise through the different expectations about the economic role of village corporations between resident and non-resident shareholders. While residents might have greater interest in preserving local resources and land for subsistence uses, non-residents with more diffuse ties to the village can have greater interest in exploiting local resources for generating profit and cash dividends that could possibly degrade habitats and resources for subsistence uses. Village corporations own land and therefore play an important role in managing access to resources and the extent to which these are protected for subsistence.

The extent to which corporate or subsistence interests might dominate in a given village, will depend to a great extent on the availability and feasibility to exploit profitable resources but also on the interests of the shareholders. In Wales, as is the case of many other villages, the possibilities for making profitable businesses are very limited for the village corporation.

However, Dombrowski's (2007) case study from Southeast Alaska provides one example of the conflict outlined above, but with the case of a regional corporation. The situation of regional corporations is rather different from that of village corporations. Regional corporations are managed in urban centers and have a broader spectrum of resources to exploit and other possibilities to make business and generate profits. At the same time, this same situation can create greater conflicts between the commercial interests of the corporation's managers in the urban centers on the one hand, and the subsistence-orientation of village dwellers on the other. In Dombrowski's (2007) case study, the regional corporation Sealaska has been clear-cutting old-growth forests for selling timber, significantly degrading the habitat for wild animals, on which traditional subsistence practices rely. This loss of habitat together with an increasing dependence on cash, wage employment, and commercial activities, have led to a marginalization of those villagers who are more dependent on subsistence, intensifying inequalities and creating internal differentiation in the communities. Furthermore, the author argues that while the economic importance of subsistence has decreased, its symbolic and ideological elements are now deployed to signal tradition and a unique Native identity in political arenas, in a process that the author describes as a shift from subsistence as a livelihood to subsistence as a 'way of life'.

We may conclude that the question about the effects of cash and market integration on subsistence does not have a simple straightforward answer. The two perspectives discussed here so far, namely if subsistence and market economies constitute mutually supportive sectors or conflicting forces, represent two aspects and scenarios, across which the diverse realities of Alaska Natives' mixed economies can vary. The extent to which subsistence practices decrease, persist or even become enhanced, will depend on a complex interaction of diverse factors, including availability of cash, types of sources of cash income, the ability to combine subsistence with cash-earning activities, the availability of marketable resources, regulatory frameworks for natural resource use, and the pressure to exploit natural resources for profit-making. Variation in the interplay of these factors can be accounted by the particular historical development and present conditions of a given community.

Finally, whether we perceive mixed economies as persistent socioeconomic systems or transitional stadiums can vary according to the time scale that we choose for our analysis.

Mixed economies constitute adaptations to specific socioeconomic conditions, and such conditions can change or persist over time. If we look at mixed economies in a period of a few decades, we might encounter that these systems are able to adapt and accommodate to external pressures without experiencing significant qualitative transformations. However, if we take a more extended period, say from contact with Europeans until the present, we encounter greater and deeper transformations in the subsistence systems of indigenous peoples in Alaska.

2.4. Changing livelihoods: the emergence of the mixed economy

There has been considerable variation in the lifeways of the Iñupiat across Northwest Alaska. Different classifications based on the prevalent form of subsistence of each group have been proposed, which correspond (at least to some extent) to different settlement patterns and forms of social organization. Spencer (1959) identified mainly two groups: the Nunamiut and the Taremiut. The former have inhabited the inland regions of North Alaska, subsisting mainly on caribou and living in relatively small and mobile groups. In contrast, the Taremiut have lived in coastal regions, in larger groups with permanent settlements, subsisting primarily on marine mammals.

The distinction between inland and coastal groups applies generally to the Iñupiat, not only to those in the North Slope where Spencer did his research, but also in the Seward Peninsula and the Bering Strait region. Ray (1992, 1983) classified nineteenth-century Bering Strait Iñupiat according to their subsistence patterns into three groups: the whaling–walrus, the caribou hunting, and the small sea mammal hunting patterns. Most of them combined maritime and terrestrial hunting of different animals with fishing and gathering, albeit to different extents according to their environmental conditions. The whalers and walrus hunters lived in strategic coastal settlement that allowed them to hunt these large migratory animals, the small sea mammal pattern corresponds to those groups with more restricted access to sea mammals (mainly seals) but usually better access to fishing, and the caribou pattern was found among inland groups. Coastal and inland groups were deeply interrelated both materially through exchange and socially through marriage and alliance (Burch 2005; Sheehan 1995). A similar costal–inland system existed in eastern Siberia with the Siberian Yupik whalers and the Chukchi reindeer herders (Krupnik 1993).

Coastal communities of large sea mammal hunters, especially whalers, had the largest settlements and highest population densities, exhibiting higher levels of social complexity and inequality, not only among the Iñupiat of Northwest Alaska but also among other 'Eskimo'

groups across the North American Arctic. The greater concentration of the population in these regions and settlements is reflected in the fact that, from an estimated total 'Eskimo' population of 48,000 people from eastern Siberia to Greenland at an early period of contact with Europeans, slightly more than a half lived in Alaska (Oswalt 1967, 24–5).

The Arctic environment is characterized by strong seasonality, where resources are usually available in bulk during short time frames in the course of the year. In Northwest Alaska, sea mammals migrate during the spring from the Bering Sea northwards into the Beaufort Sea, and back southwards during the fall. In the inland regions, caribou runs migrate and become available in great numbers. Coastal communities consisted in one large winter settlement, where people and extended families aggregated from the fall through the winter and spring. During the summer, the aggregate of the winter settlement fissioned into smaller groups that moved to smaller settlements and summer camps dispersed across the landscape, though some people would inhabit the winter settlements permanently. The highest peak of activity is during the spring, beginning with whaling and later with walrus and seals. These animals are hunted also during the fall, albeit to a lesser extent. During the summer, fishing, hunting of terrestrial animals and birds, and gathering of eggs, berries, and plants take place. During the winter people may hunt seals in breathing holes as well as terrestrial animals.

First contact between the Iñupiat and Europeans took place in the eighteenth century, when the first explorers and expeditions arrived in the Bering Sea advancing into the Beaufort Sea. However, interactions with the Iñupiat were not very frequent and did not effected any substantive changes on the Iñupiaq way of life. It was not until the mid-nineteenth century, with the arrival of European and North American commercial whalers, that the Iñupiat began to interact intensively with Europeans and Americans, and their lifeways began to change in several significant ways. Though in the beginning these interactions and exchanges took place in rather equal terms, relationships became more asymmetrical later on. This process developed with recurrent waves of intensification, as the larger societies of the more temperate zones expanded into the North, appropriating land and resources and settling, in a sequence of increasing integration of the Iñupiat into a larger political economy.

During the second half of the nineteenth century, commercial whalers arrived in great numbers to the Bering and the Chukchi Seas. Commercial whaling brought significant changes to Iñupiaq society, including the introduction of new trade goods and technologies, as well as the first experiences with forms of wage labor and commercial activities. At first, commercial whalers operated only at sea, but later they established some shore stations. Commercial whalers hired Iñupiaq men to work for their crews and women to work at the stations, paying

them with staple foods and trade goods, attracting thereby Iñupiat form inland regions (Bockstoce 1978). During the second half of the nineteenth century, a large-scale inland–coast migration took place, in part due to the pull effect of commercial whaling, and partly because of a sudden decline in caribou (Burch 1975).

Subsistence systems were affected to some extent by the expansion of commercial whaling in the regions, but they were not dramatically transformed. New technologies such as firearms were introduced and were pragmatically adopted or rejected by the Iñupiat (Huntington 1992, 36), but their use still not become widespread, and so the Iñupiat still relied largely on their own traditional methods for subsistence and their locally produced tools. Nevertheless, the new technologies and the practices of commercial whalers did changed some Iñupiaq practices and beliefs in relation to hunting (Huntington 1992, 37f). While it is true that commercial whaling introduced wage labor to the Iñupiat for the first time, this was for activities they already practiced and knew very well. Furthermore, it was primarily paid in kind and its seasonal character did not interfere very much in the seasonal round. Commercial whaling had significant effects on the regional system through an induced coastal–inland migration, but it did not break up the system of interrelations and exchange between inland and coastal populations.

Though some Russian goods were already available in the region since the eighteenth century even before the first Europeans arrived, it was not until the arrival of commercial whalers that the Iñupiat gained widespread access to European trade goods. Thus, according to Huntington (1992, 38), "[t]he most significant effect of the commercial whaling era […] was that the Iñupiat had now been brought into regular contact and interaction through trade with American society." This interaction occurred mostly in ways in which the Iñupiat could also establish their own terms in the relationships and exchanges they incurred, lacking the oppressive character of other European commercial enterprises such as the fur trade in the southern and southeast regions of Alaska and the rest of North America. However, commercial whaling did mark the beginning of an increasing dependence of the Iñupiat on extra-local goods, including the technology used for subsistence hunting (Bockstoce 1978), initiating a transformation of the native means of production.

By the end of the nineteenth century, whale and walrus stocks in Northwest Alaska declined dramatically due to overexploitation by commercial whaling. Afterwards, global markets for whale and sea mammal products collapsed. Commercial whaling in Northwest Alaska came to an end by 1920, leaving behind depleted whale and walrus stocks, as well as the destructive effects of alcohol and new diseases on Iñupiaq society (Huntington 1992). At the same time,

the gold rush beginning at the end of the nineteenth century attracted large amounts of US-Americans to the region, e.g., in Nome, who in contrast to commercial whalers, arrived there to stay. These events consolidated the beginning of the settling and colonization of Northwest Alaska, bringing massive changes to local ecosystems and Iñupiaq society, with the subsequent establishment of missions, schools, and stores, as well as the concomitant political control by the state.

The end of commercial whaling meant that "Iñupiaq whaling returned to be a subsistence activity" (Huntington 1992, 38). At the same time, two other economic activities where introduced, which further transformed Iñupiaq subsistence and settlement systems, further integrating them into the world economy. First, reindeer herding was introduced in the Seward Peninsula during the last decade of the 19th century to counteract the famines produced by the depletion of marine mammals and the decline in caribou, but also with the intention of 'civilizing' the Iñupiat by forcing them to transition from a foraging to a pastoralist way of life. Reindeer were brought from East Siberia together with Chukchi people to teach the Iñupiat, but this soon proved to be a bad idea due to the long-standing hostilities between these groups. Instead, Sami herders from Scandinavia were brought for this purpose. In the end, reindeer herding turned out to be a short-lived experiment, though it continued in a small scale until the present. To my knowledge, there was only one family in Wales that still practiced reindeer herding until recent years, and I knew of only one person left dedicated to this activity by the time of my fieldwork. Several factors have been said to contribute to the early demise of reindeer herding in Northwest Alaska, such as its incompatibility with a foraging way of life, but also due to vanishing markets for reindeer meat during the Great Depression of the 1930s. Huntington (1992, 39) argues that "reindeer herding ended primarily because other ways of earning a cash income allowed people to participate in subsistence as well. Reindeer herding required a change of lifestyle in some ways greater than the change required by the transition to a wage economy."

The second economic activity introduced in the region came with the North American fur trade, as it made its late expansion into Northwest Alaska, proving an alternative commercial activity after the collapse of commercial whaling. While reindeer herding was mostly carried out in the Seward Peninsula, fur trapping became widespread in the North Slope around the 1920s. As a rather solitary activity, fur trapping dispersed the population through the landscape, even into places formerly not inhabited by the Iñupiat, and thereby counteracting the previous effects of commercial whaling on settlement patterns and population (Huntington 1992, 39). This, as Huntington further argues, restricted extensive sharing and cooperation, but still it was

a form of hunting and it was a seasonal activity, like other traditional subsistence activities of the Iñupiat, and unlike reindeer herding. Eventually, fur trapping would also come to an end in Northwest Alaska during the 1930s.

Commercial whaling, reindeer herding, and fur trapping, all had different dynamics and impacts on the Iñupiat, but they all had something in common: they involved the commercialization of natural resources that the Iñupiat incorporated in one way or another into their subsistence systems. The demise of these three economic activities in Northwest Alaska, meant that: "Opportunities for widespread participation in the market economy through the use of animal resources were effectively gone by the end of the 1930s. Use of wildlife was again almost exclusively for subsistence" (Huntington 1992, 40). From that time on, the sources of cash income in Northwest Alaska shifted from activities that could be in one way or another incorporated into the subsistence systems and the seasonal round, to new and qualitatively different forms of occupations in the wage economy that were not related to and were often at odds with traditional subsistence activities.

From the 1940s onwards, the Iñupiat became involved in the labor market through various new activities and occupations, including the construction industry, such as for infrastructure and roads, but also the military through the establishment of the Distant Early Warning Line (DEW-Line) during the Cold War, which spanned across the North American Arctic with numerous military stations. Many Iñupiat served in the military as well, in many cases spending some time in other parts of the United States. Other employment opportunities were provided by the drilling explorations for oil in the National Petroleum Reserve in Alaska between the 1940s and the 1980s. These forms of wage labor were definitely different in kind from the activities described before, and so from that point, the "difficulty lay in figuring out how to join in the cash economy without giving up one's participation in the subsistence economy" (Huntington 1992, 41). This, as we will see along this chapter, has been a major challenge for the Iñupiat and Alaska Natives in general, as well as a central concern in the study of mixed economies.

2.5. Ethnography of a mixed economy

Having outlined the main historical developments that transformed the livelihoods of the Iñupiat in Northwest Alaska, let us turn now in more detail to the contemporary realities of Iñupiat hunters in the mixed economies, based on my own case study of the village of Wales (Kingigin), Alaska.

...e on the Bering Strait

2.5.1. Iñupiaq hunters in the twenty-first century

The basic tool-kit used by contemporary Iñupiat sea mammal hunters consists of fire arms, the toggling harpoon, and hooks for animal retrieval. Fire arms, first introduced by commercial whalers and traders in the nineteenth century, include most frequently high-power rifles, but also shotguns, handguns and darting guns with bombs for whaling. The toggling harpoon, which has remained largely unchanged for the last century or more, consists of a removable metal head (formerly made from ivory) similar to an arrow point, which is attached but not fixed to one end of a wooden shaft and tied to a line. The line may include a drag float attached to it (especially for whaling). When the hunter throws the harpoon like a lance towards the animal, he keeps one end of the line to which the harpoon head is attached. When the harpoon head penetrates the animal, it detaches from the shaft and twists, or toggles, ninety degrees perpendicular to the animal's skin, lodging beneath the skin and blubber and allowing the hunter to retrieve the animal with the line.

Large sea mammals have been traditionally hunted by the Iñupiat using a large open skin boat called *umiak* (plural: *umiat*). Skin boats were originally propelled exclusively by human power and the elements, which included the use of paddles and oars, wind power through sails made of walrus stomach and later cloth (Hill 2011; Jensen 2012), ocean currents, and drift ice moved by currents and wind. As the results of the industrial revolution were spreading throughout the world, outboard motors arrived to Alaska, which during the 1910s and 1920s began to be used by the Iñupiat of the Bering Strait region on their skin boats, in combination with the other propulsion methods mentioned above (Ellanna 1983). Later during the 1970s both plywood and aluminum boats were introduced and began to be adopted by the Iñupiat (Ellanna 1983). Since then, aluminum boats have replaced locally produced skin boats, which have been completely abandoned in Wales in the last decades. This, however, has not been the case in other parts of Northwest Alaska, where Iñupiat continue to use the traditional skin boat in addition to industrially produced ones.

The adoption of motorized aluminum boats and fire arms changed, among other things, hunters's mobility and practices. The new boats are smaller and can carry less people and freight than the skin boats, but also dispensed with the need for paddlers, so crews can work with less personnel. While imported boats offer some advantages, they also imply some compared to the traditional skin boats. According to one informant, the freight capacity of the new aluminum boats is more limited, although this can be compensated with the increased speed that allows hunters to travel to the village to unload freight and back into the sea in order

to continue hunting. Furthermore, skin boats are more flexible than aluminum boats, resulting in two advantages over the latter: first, they are said to be more secure as they flex with the waves; and second, they are more silent, a significant advantage when it comes to approaching game without frightening them away. Another crucial issue is that motorized transportation requires fuel, thus making hunting a monetary costly activity, as it will be discussed later on. Furthermore, before the introduction of fire arms and outboard motors, hunters had to get close enough when approaching an animal in the water, in order to harpoon first and then then kill it. The use of rifles and outboard motors allowed hunters to shoot animals at greater distances and harpoon afterwards.

As seen in section 2.1., archaeologists and anthropologists have distinguished between two types of mobility among hunter-gatherers: residential mobility, involving the movement of a social unit like a camp, a settlement, or an extended family group; and logistical mobility, which are the movements of individuals or task groups away from and back to the village for foraging purposes. Logistical mobility patterns of Iñupiat hunters vary according to the season and the prey pursued. Early in the spring during April, bowhead whales are hunted in leads, which are openings in the sea ice that can be found already one and a half kilometers away from the village. Whaling crews tow their boats with snow mobiles over the sea ice (shore fast ice) to the lead and wait there for whales, or alternatively, drive with the boat monitoring across the lead. When a whale is spotted, hunters first have to decide if it is worth taking their boat into the water and pursue the whale, or if it is better to let the whale pass by if it is too far away. Elder hunters have reported that their parents and past generations used to camp on the ice by the lead for days. While this is still done in other communities, in Wales hunters may spend the day out by the lead but will then return to the village by the evening.

Later in the spring during May and June, when sea ice has retreated, *oogrook* (adult bearded seal) and walrus are hunted in open water or on drift ice. Hunting trips for walrus and *oogrook* usually cover longer distances than those for whaling, because of the movements for commuting to and between patches of drift ice in the sea where game is found, as well as for monitoring and searching for game within and between patches. During spring, sea mammals migrate to the north with the currents that flow northwards through the Bering Strait, which acts as a bottleneck for the migration routes of the animals moving into the Beaufort Sea. A common procedure for hunters in Wales is to drive their boats several kilometers southwards, then drift northwards – usually on drift ice – with the currents into and eventually beyond the strait, and afterwards either return to the village or drive again southwards and repeat the procedure. During these trips, hunters may decide to move to different areas where they might

find more game. Large game like walrus and bearded seal are usually found further away from the village and thus requires greater distances than small seals, which are said to be all over and nearer to the village. While in search for large game, hunters frequently encounter small seals, which they may hunt opportunistically or let go if only focused on walrus and bearded seal. However, sometimes hunters going after large game may return only with one or a few small seals, which is always better than empty hands.

From the data collected from several informal conversations as well as two mapping sessions with hunters, I estimate these trips to cover a range from around 45 to 60 kilometers southeast, 20 to 35 kilometers southwest, and 35 to 50 kilometers northwest from the village. A round trip consisting of driving south one time, then north passing the village, and then back to the village may cover in total about 70 to 140 kilometers, but this distances can be significantly increased if the hunters repeat these procedure several times. A hunting trip usually takes ten to fourteen hours. Elders report that in the past such trips could last for several days. Burch (2006, 152) mentions that seal hunting with *umiat* (skin boats) lasted forty-eight to seventy-two hours or more in a stretch. It must be mentioned that during May and June, even when the sun hides just below the horizon only for a few hours, it never gets dark, remaining bright enough for people to go hunting whenever the conditions are favorable irrespective of the time of day.

Hunting costs money. Crews must take with them enough food, drinks, cigarettes, ammunition and fuel. One hunting trip can amount to somewhere between 90 and 300 US-dollars, not taking into account the costs of equipment (rifles, boat, motor) and its maintenance (spare parts). Fuel, which is delivered to the community by barge once a year and stored and sold locally by the tribal council, is by far the largest expense that hunters face when it comes to sea mammal hunting. Fuel prices are about twice as much as in the urban centers. Most hunters in Wales mentioned that fuel was one of the major factors determining hunting activity and mobility. As one whaling captain put it: "We hunt to eat, it's our garden out there", he said pointing to the sea smiling, "and it's for free!" But then added less enthusiastic: "…except for the gas". Another captain pointed to the inequalities emerging between crews due to differential cash incomes: "Some crews are more able, they have money to buy gas; some crews and families can't afford the gas, so they can't go very far."

Therefore, cash has become a main determinant for hunting. The amount of cash available for a given crew will determine if, when and where they might go hunting. Less cash and thus less fuel at hand mean decreased hunting success or having to be content with getting small game, since large game requires more fuel travel farther away. This phenomenon is not unique

for Wales but is present among many other native populations in Alaska and Canada, where high costs of fuel and limited access to cash income have severely constrained mobility for subsistence, reducing both length and frequency of such logistical forays (Brinkman et al. 2014; Condon, Collings, and Wenzel 1995; Van Lanen 2018). At the same time, while having more cash at hand enables hunters to hunt more, it also requires investing more time in wage labor, which might collide with hunting and other subsistence activities.

The general long-term trend in Wales seems to be that people tend to hunt less, and that less people become actively engaged in hunting. This can be observed in the diet. Hunters themselves, or people with active hunters living in their households, reported to eat wild animals between one and four times per fortnight, some said about half of their diet consists of wild foods, others said they eat them every few weeks. People might eat more wild foods during the hunting season but usually try to keep some for the winter, which is also a time with less jobs. Households with no active hunters may eat hunted food even less frequent, occasionally when they receive a gift, or in some cases even not at all. In response to my questions, some elders and hunters said they eat wild foods less frequent nowadays, and that many children and youngsters do not like 'Eskimo' food, because they have not grown up with it and so did not acquire the taste for it.

Some historical data available allow making comparisons that indicate declines in hunting. For example, according to Ray (1992), in the 1890s between four to five thousand seals were harvested per year in Wales, at a time when the population is estimated to be around 500 inhabitants or more. Being conservative with these estimates, this yields a per capita harvest of eight seals. Compare to the per capita harvest of almost two seals in 1993, according data provided by the Alaska Department of Fish and Game.[6] According to an historical source mentioned by Ray (1992, 112) in early nineteenth century (before commercial whaling) the people of Wales used to harvest around 600 to 700 walrus annually, yielding an amount of 1.2 walrus per capita (for 500 inhabitants), whereas in 1993 almost half a walrus per capita was harvested (see source on footnote 3). Historical data compiled by Ellanna (1983, 460) shows that whales were successfully hunted in only 16 of the 65 years for which there is data on whale harvests between 1880 and 1980. Thus, in 49 seasons no whales were taken, some times over decades. There may be several reasons for this. One is that whaling success is subjected to much greater variance as for other animals, but dramatic population declines and resulting labor shortages after the influenza epidemics of 1918-19 surely curtailed the possibilities for whaling.

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[6] http://www.adfg.alaska.gov/sb/CSIS/index.cfm?ADFG=commInfo.Summary&CommID=365&Year=1993

In recent years, climate change has posed serious challenges to sea mammal hunters, given that both animals and hunters rely on sea ice, which is significantly retreating. This is illustrated in the dramatic decline in sea mammal harvests in 2017, which was more than seven times lower in weight than it was in 1993.[7]

Other subsistence activities such as fishing, gathering eggs and plant foods, and hunting birds and land mammals, appears to recede too. Many of these activities are carried out in camps where family groups and households move in the summer. Traditionally, the population in the winter village would break down during the summer into smaller groups and move to the summer camps scattered across the landscape, within the territory controlled by the group. While families still usufruct those campsites, people have become increasingly constrained by their time schedules and their ties to the village, mainly because of employment and the school. While some jobs have regular office working hours during weekdays (e.g., post office and jobs at the Tribal Council and the Village Corporation), others require flexibility and constant availability, such as working for the clinic or for the local airlines. Hence, the use of camps and the activities that take place there has become more limited.

This decrease in hunting and in the consumption of wild foods is closely related to the increased possibility to eat imported, store-bought foods. According to one informant, during the 1970s only local store at that time had very few supplies and was very expensive, and during the 1980s supplies would come once a year with a barge, which had to be unloaded by small boats and carried to the village. Store-bought goods were rather luxury products and people still relied to a great extent on foraging for a living. Today, there are two stores and supplies arrive frequently with airplanes. Nevertheless, foraging still constitutes a source of high-quality food and nutrients, usually better than much of that found in the local stores, which normally lack fresh products. In addition to that, some people and households buy frozen meat in bulk from the city, which they store in their freezers to supplement wild foods. Imported foods have become part of the daily diet of the population of Wales.

2.5.2. Sources of cash income in a rural village

We have seen how hunters move around and hunt, and we have also seen how much intertwined hunting has become with the cash economy, to the extent that hunting is not possible any more without any source of money. Money is not only needed for hunting but also for practically all spheres of life: people have to pay rent, heating oil, electricity, clothes, in addition to much of

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[7] http://www.adfg.alaska.gov/sb/CSIS/index.cfm?ADFG=commInfo.Reference&CommID=365&Year=2017

the food they consume. But how exactly people in Wales access money? Who works for wages and how is wage labor organized? There are four different sources of cash income in Wales: wage employment, welfare, dividends (from the Native village and regional corporations, as well as from the Alaska Permanent Fund), and some minor commercial activities such as selling of raw or carved ivory.

It was in the second half of the nineteenth century that the Iñupiat started to work for wages for the first time, though paid in kind and trade goods rather than cash by commercial whalers. During the twentieth century, the Iñupiat became gradually more involved in wage labor, with occupations different from the traditional subsistence activities. Through employment in the mining industry, in the military, in construction and transportation, the Iñupiat began to work for wages paid in cash, and to take part in forms of work that were radically different from their traditional subsistence activities. Sources for wage employment have varied across time and regions. In the present village of Wales, people are employed in the school, the health clinic, the two local stores, the post office, the local administration (the City of Wales), the IRA Tribal council, the Wales Native Corporation, and as local agents for regional airlines as well for the Alaska Department of Fish and Game. In general, jobs are quite limited in Wales, as in many other Native Alaska communities. Jobs range from unqualified work for clean-up and waste disposal, through 'blue-collar' manual and mechanical maintenance work, or 'white-collar' employees of the tribal council, and the more highly qualified work as teachers and health aids that require at least some education in the urban centers.

Many jobs are seasonal and/or part-time. A general pattern in Alaska Native villages is that men tend to have more 'blue-collar', seasonal, and part-time jobs, whereas women tend to have more 'white-collar', permanent and full-time jobs (Ellanna and Sherrod 1995; J.S. Magdanz, Utermohle, and Wolfe 2002) Wales appears to follow this trend too, but still there is no clear-cut division of labor between the sexes in the wage economy. Even though some men have permanent jobs with fixed working hours, many prefer seasonal jobs because they can be better adjusted to the demands of hunting, which requires hunters to be always ready to go whenever conditions are favorable. On the other hand, much of women's traditional work, like processing, can be more easily combined with permanent and full-time jobs. Furthermore, women have higher levels of formal education and qualifications that allow them to take jobs in the administration or health sector. Among different communities in Alaska it has been observed that women are more educated, work more for wages, and earn higher incomes (Magdanz, Utermohle, and Wolfe 2002). At the time of fieldwork, almost all employees in the offices of the Tribal Council in Wales were women.

It has been mentioned that cash is one of the main limiting factors for hunting. Thus, earning more money would mean being able to hunt more. The other side of the coin is, that when a hunter gets a well-paid job, perhaps a permanent and/or full-time job, he might have the money but not the time for hunting. Different arrangements are undertaken in order to overcome these limitations, such as pooling cash by members of one or more households, or by the members of a hunting crew. In several households in Wales women are more involved in wage employment than men, providing an important share of the household's cash income. What is more, women may at times also be the main or sole providers of cash for a hunting crew, something that Worl (1980) had already observed thirty five years ago in the North Slope. Ellanna and Sherrod (1995) also reported women as frequently being the cash earners of households as well as financing hunting crews.

Welfare and other transfer payments constitute the second source of cash income, and includes social security such as retirement and other social programs, as well as other funding and transfer payments provided by the state and non-governmental organizations (e.g. Kawerak Inc, an Alaska Native non-profit Corporation). Given the limited and sometimes uncertain nature of wage employment in the village, many individuals and households rely significantly on welfare and transfer payments. The tribal council assists people to apply for funding and assistance.

The third source of cash are dividends of different kinds. After the Alaska Native Settlement Act (ANCSA) was passed in 1971, several Native regional and village corporations were created and entitled to land, of which Alaska Natives became shareholders as long as they belonged to a federally recognized tribe. The extent to which those corporations have been successful in making business of any kind and providing their shareholders with dividends has varied, in part according to the availability of any exploitable natural resource within the land owned by each corporation. For instance, corporations in the North Slope or in Southwest Alaska have been able to make significant profits out of oil revenues and forestry respectively. In Wales however, informants reported that dividends from both the regional and the village corporation do not contribute any significant monetary income to them. Especially dividends from the village corporation are negligible or in some years non-existent. Finally, there is the Alaska Permanent Fund, a fund of the State of Alaska constituted by oil revenues, which pays every Alaska resident a single annual dividend, usually somewhere between 1,000 and 2,000 US-dollars, according to informants in Wales.

The fourth and last source of cash income are commercial activities such as selling raw or crafted ivory. Raw ivory from walrus tusks can be sold by an Alaska Native only to another

Alaska Native. According to my informants, one tusk may be worth between 500 and 700 US-dollars. Only crafted ivory can be sold to non-natives, usually at higher prices than raw ivory at stores in the urban centers. In addition to ivory, there is the selling of reindeer meat, but to my knowledge there is only one person left working with reindeers. The commercialization of other 'subsistence products', like meat and blubber from marine mammals, is prohibited. Thus, ivory and reindeer meat might be the only sources of cash income associated to any of the subsistence activities in Wales, in contrast to other regions such as in Southwest Alaska, where Yupik people are able to commercialize part of the harvests of their subsistence fisheries.

3. The social organization of subsistence

At the beginning of the previous chapter, I identified two major uses and meanings of subsistence. One refers to the practices deployed by people to appropriate and transform resources from the environment, whereas the other denotes a particular type of orientation and organization of such production. While the previous chapter was dedicated to the former, i.e., to subsistence as a livelihood, I turn in this chapter to the organizational aspects of subsistence hunting and the allocation of resources, both in traditional Iñupiaq society and in the contemporary mixed economy.

Subsistence economies, be them based on foraging of wild foods, plant cultivation, animal husbandry, or some combination of these, are usually defined in contrast to market economies, as the organization of production by domestic units with no or limited surpluses for exchange. Hunter-gatherers' subsistence economies are organized through a simple division of labor based on gender and age. While usually organized in relatively fluid groups, there is considerable variability in the social structure and kinship systems of foragers. One important question that arises in the study of hunter-gatherer mixed economies refers to how society (re)organizes to deal with changing livelihoods, and to what extent social relations might be transformed in the process. Sharing, which has been identified as one of the main features of hunting and gathering societies, constitutes their major form of distribution and allocation of resources. However, several foragers have been engaged in different forms of exchange and trade, both within their groups and with non-forager neighbors. Another major problem in the research on mixed economies has been to understand how cash and commoditization affect sharing practices.

In order to address these issues, I will first describe Iñupiaq kinship and social organization by the time of contact with Europeans, as reconstructed in the ethnographic literature. After a discussion of some of the changes and continuities in the social structure that have taken place since then, I will briefly describe the traditional division of labor among the Iñupiat. In the following section, I present and discuss my own data on the organization of contemporary hunting crews in the community of Wales, in relation to kinship, gender, and age. In the last section, I turn to discuss current issues in sharing, distribution, and exchange in mixed economies, with reference to the ethnographic literature from the North American circumpolar regions and my own observations.

3.1. Iñupiaq social structure

3.1.1. Kinship

In the Iñupiaq kinship system descent was reckoned bilaterally, and according to Burch (1975, 45), with equal emphasis on the male and female lines. However, a certain patrilineal tendency or emphasis on the male line existed to some extent among most 'Eskimo' societies across the Arctic (Damas 1984, 1968). While the equal emphasis on both lines may have been true for the matters of family membership and household composition, patrilineal links played a central role in the recruitment of certain groups and factions. In any case, Iñupiaq kinship was bilateral and ego-centered, with no corporate groups based on unilineal descent. Theoretically, any cognate (i.e., consanguineal relative) would be considered a relative disregarding its distance or number of links separating him or her from ego, e.g., any cousin of any degree would be considered a relative (Burch 1975, 51). Furthermore, practices such as adoption and co-marriage (see below) served as mechanisms to extend the scope of descent and consanguine relationships (Burch 1975).

According to Burch (1975), the most common type of marriage was the conjugal union between a husband and a wife, i.e., the monogamous co-resident marriage. Polygynous marriages occurred mostly in coastal communities, where wealthy men married two, or less frequently more, wives. Polyandry was possible but extremely rare. In addition to the co-resident marriage, two forms of non-residential marriage existed. Co-marriage, also known as wife-exchange, was a union between two conjugal pairs and it was more common to occur between members of different local groups, since "co-marriages seemed to have functioned primarily as inter-regional alliances" (Burch 1975, 109). Through this process, the children of the respective couples became siblings (or co-siblings), and that each couple became parents of their respective co-spouses' children. The second form was through separation and remarriage, which created new relationships that added up to those already existing ones, resulting in similar constellations as that of the co-marriage.

Heinrich (1963, 1960) points out that the Iñupiat did not have the so-called 'Eskimo' type of kinship terminology. He identified two main regional variations in Iñupiaq kinship terminology. First, there was a difference between the affinal-excluding and the affinal-incorporating terminologies. In the former, affinals were kept separated from consanguineals, whereas in the latter several affinals (especially in generations above ego) were merged with their correspondent consanguineals. The second variation in terminology was between the

three-cousin and the two-cousin systems. The three-cousin system, which can be considered a variation of the Iroquois terminology (Schweitzer 2016), classified cousins in relation to the sex of the linking parents and hence distinguished between cross-cousins on both sides, patrilateral parallel cousins, and matrilateral parallel cousins. Siblings were classified differently from cousins and distinguished according to sex and relative age in relation to ego. Cousins, disregarding of their type, could also be classified as extended siblings. The two-cousin system often equated siblings with first cousins, but all other cousins were classified solely on the basis of the sexes of the individuals involved, without reference to their parents, i.e., with categories for male or female cousins. The regional distribution of these variations was so that the three-cousin and the affinal-excluding type was mostly found among the larger coastal communities with permanent winter villages, while the two-cousin and affinal-including type corresponded to the more mobile groups in the interior.

There are two important aspects of the Iñupiaq kinship system to consider here: its broad scope and its flexibility. These characteristics were provided by the bilateral descent, the recognition of cousins disregarding their genealogical distance, the expansion of one's affinal relatives through polygamy, co-marriage, separation-and-remarriage, the extension of consanguineals through adoption or co-marriages. All of these contributed to expand any given kindred and the amount of relatives of any given individual. This expansion was of course limited by demographic and cognitive factors, such as keeping track of genealogical links (Burch 1975). Each kindred was like a set of concentric circles around ego of close to more distant relatives. Every individual had a set of close kin to whom relations and roles are relatively clear and more distant kin with whom ego might choose to interact to activate already existing links as well as potential kin to whom kinship statuses and relations can be ascribed to form new links (Burch 1975; Heinrich 1960, 1963).

The result of this kinship system was that everyone is related to everyone else in the community, allowing individuals to interact within a broad network of relatives in different ways and to recruit groups with flexible and fluid membership. Flexibility in the allocation of kinship roles "was not so much a matter of ambiguity as it was one of comparatively broad (but by no means complete) freedom of individual choice regarding the specific people one would interact with on any particular basis" (Burch 1975, 62). This was so because "on the one hand the individual has considerable freedom in constructing his own kin group, and, on the other hand, the same individual may quite properly be placed in any one of several categories vis-à-vis the same referrant [sic]" (Heinrich 1960, 112).

Kinship was extremely important in Iñupiaq social organization. Burch (1975) describes Iñupiaq society as being overwhelmingly kinship oriented in that "both ideally and actually, kinship ties were emphasized at the expense of all others" (22), and that "kinship was relevant in *all* social contexts in traditional Northwest Alaska" (24, emphasis in original). More specifically, kinship "was the means by which mutual interdependence, obligations, alliances, and other rules of interpersonal behavior were defined" (Ellanna 1983, 50f). Kinship provided the framework and the rules for most social relations and group formation.

3.1.2. Families and domestic groups

Burch (2006, 1975) has described Iñupiaq family organization as consisting of three levels or units. The smallest unit was the conjugal family, comprised of at least a co-resident husband–wife couple and their unmarried children, if any; but it could also include more people and relationships if it was of the polygamous type. Conjugal families had practically little functional importance, as they mostly did not dwell on their own (except in times of famine), did not act as a unit in virtually any activity, and also owned very little property such as bedding, hides and pelts obtained by themselves, and other personal property objects such as weapons, tools and utensils (Burch 1988). Usually, two or more closely related conjugal families shared one dwelling, constituting one household or what Burch referred to as the domestic family. Domestic families lived in pit-houses, which were semi-subterranean sod houses built in the tundra, with a summer and a winter passage, storing facilities, a fireplace, and a single large room where people slept together. A variety of different compositions were possible, but two types appeared to be most frequent: the first included aged parents, one or more adult offspring with spouse(s), and grandchildren; and the second consisted of two or more married siblings, their spouses, and their children (Burch 1975, 239). Average household size has been estimated to be between seven and eight persons in times before contact, but data is scarce in this respect (Burch 1975, 240; 2006, 89). Domestic families owned food as well as items of shelter and transportation (Burch 1988).

Finally, domestic families constituted larger units that have been referred to as local families (Burch 1975) or compound families (Burch 2006). These were large extended family groups, which "were not necessarily exogamous, although they usually were in practice" (Burch 1975, 240), and whose members were distributed among two or more households, each of the latter occupying different dwellings. In smaller communities, a single local family would make up the whole settlement, whereas larger coastal communities were composed of two or

more compound families (in Wales there were three). In the latter case, domestic families belonging to the same compound family clustered their dwellings in the winter settlement forming neighborhoods or hamlets, and camped either together or separated in summer campsites. The campsites and the land in winter settlements on which houses were built belonged to the local family, but only through usufruct, i.e., through regular use and not in a permanent way (Burch 1988). In addition, local families owned a *qazgi* – an assembly and ceremonial house – and food pooled by its members in collective caches and storing facilities or in each of their component households.

Local or compound families were virtually self-sufficient and the most important units for daily life, in that their members "pooled resources, cooperated in all kinds of activities, and entered one another's houses without seeking permission" (Burch 2006, 98). Therefore they were the main social and economic units, or, in other words, "the major organizational components of a traditional Northwest Alaskan Eskimo society" (Burch 1975, 241). Burch (1975, 70) equates the Iñupiat local (or compound) family with the main component segments in other hunting and gathering societies that other authors have referred to as local bands, local groups, hunting groups, or camps.

3.1.3. *Continuity and change*

The historical developments outlined in the previous chapter affected kinship and families in several ways, something that has been discussed in detail by Burch (1975). I summarize the main issues here. During the second half of the nineteenth century, commercial whaling and caribou decline induced a large inland-coast migration. As a result, populations that were formerly highly endogamous were largely mixed up, where suddenly several unrelated people were living together in the same villages. Commercial whaling also brought alcohol and diseases to which the Iñupiat were not immunized, causing many deaths and dramatic population declines. This disrupted families and eliminated lines of descent. In addition to this, commercial whalers first introduced non-kin organizations in which the Iñupiat could participate, creating opportunities for a certain independence of people from their own kin. Although seasonal, employment by commercial whalers "was a type of alternative that had not been present at all in traditional times. By 1885, an Eskimo youth could tell his relatives to 'Go to the devil,' and then join a white man's whaling crew" (Burch 1975, 29).

Towards the turn of the century, missionaries established in the region directed their efforts towards transforming or eliminating many of the Iñupiat's values, beliefs, and practices,

including the traditional marriage practices of polygamy, spouse exchange, and divorce. Increased sedentarization weakened ties between distant kin that might have moved to other villages and regions during the great population dislocations. The establishment of missions, schools, stores, and churches, and their increasingly central role in social life reduced the functions fulfilled by kinship units and relations in matters of enculturation, religion, recreation, and social control. After the purchase of Alaska by the United States in 1867, the patrolling by U.S. Coast Guard and the involvement of U.S. Americans reduced and eventually eliminated warfare and feuding, thus reducing the function of kinship for social control. After the Second World War, in addition to the acceleration of these trends, there was a change in housing as American houses were build where mostly one conjugal family dwelled, and only rarely an extended family. New communication technologies and increased mobility in later decades "facilitated a reemphasis of the wider network of kin" (Burch 1975, 41).

During my fieldwork, it was possible to recognize that, at least nominally, two or three extended family groups continue to exist in the community of Wales, usually identified by Iñupiaq surnames that are normally passed from the father to the children. Traditionally, the Iñupiat where named after deceased close relatives, but at the end of nineteenth century missionaries changed this practice by people Christian names and using the Iñupiaq name of one of the parents (usually the father) as the surname (Schweitzer and Golovko 1997). The usefulness of present-day surnames in identifying family groups is limited and might be misleading, since in-married members of a family group will have different surnames even though they might operate socially and economically together. Furthermore, on some occasions, missionaries gave surnames to children in ways that close relatives were named differently. One example of this was one elder in Wales, whose father's siblings ended up having all different last names after they became orphans during the flu epidemic of 1918-19.

Despite these limitations, surnames can still provide a first orientation in identifying family groups. The people in Wales use these surnames when talking about their own and other families, and when talking about animosities and rivalries between families, which points out to a continuity in the fact that extended family groups constituted the main factions in a community. Another indication of that is the way the deceased are buried. According to some informants, corpses used to be deposited in the tundra, for instance between or under rocks, and whale bones put at those sites. However, after conversion to Christianity, dead bodies had to be buried – not an easy task in the tundra where only a few meters deep the ground becomes impenetrable due to the permafrost. The solution to this was bury the dead in sand dunes between the beach and the tundra nearby the village, with Christian crosses with the names of

the people on them. Walking through this cemetery, one can recognize that family names tend to be spatially clustered, just as members of the same compound family used to be clustered in hamlets.

Interestingly, such hamlets hardly exist anymore in the village. Infrastructural changes in the last century reorganized space in the community, with modern pre-made houses built around one street and related households often scattered across the village. The spatial organization of the village has decoupled from the social structure, inasmuch as the former does not follow a kinship principle, as does the latter. The opposite trend has taken place in the spatial arrangement of the deceased. Kinship, the principle that once organized the houses of the living in the village, now orders the dead in the sandy graveyards.

A study by Magdanz, Utermohle, and Wolfe (2002) demonstrates that the traditional family organization described by Burch continues to exist in Wales, and that the compound or local family continues to be a functional unit in socioeconomic terms. Applying the methods of social network analysis, the study found that members of such family groups interact and cooperate with each other much more frequent and with higher intensity than with other community members, both for subsistence production as well as for distribution and exchange of wild foods. The study found however, that structural changes have taken place. Average household size has decreased from 7.5 in 1885 to 3.2 in 1994, and while households in 1885 contained two or more marriages, in 1994 contained mostly nuclear families or singles, but no multiple marriage (Magdanz, Utermohle, and Wolfe 2002, 117). While structure and average size of the household has change, it continues to be the primary economic unit. With data from a comprehensive survey, Usher, Duhaime, and Searles (2003) argue that the household constitutes the main and basic unit for production and consumption among northern aboriginal communities with mixed, subsistence-based economies. This appears to be a continuity with traditional Iñupiaq society, albeit households have to be considered in the context of the extended family group.

These changes can be partly traced back to the action of missionaries at the end of the nineteenth and beginning of the twentieth century, who only allowed co-resident marriages and prohibited all other forms such as polygamy and co-marriage. Another factor is a change in housing, since pre-made houses imported from the US are designed for one rather than several nuclear families to live in, in contrast to the traditional pit-houses in which two or more domestic families dwelled. In fact, this can be a misleading issue when defining and identifying households. During fieldwork I observed several cases in which a young couple, either with or without children, spent much time at the parents of either or both of them, sharing meals on a

regular basis, pooling resources such as food and cash, and cooperating in various tasks such as childcare. This may indicate that, disruption due to missionaries, epidemics, and changes in housing, some households continue to function and be constituted in traditional ways. Households can be defined at least in two ways, one as those people living in a single dwelling under the same roof, and the other as those people who share meals on a daily basis. The former is the common definition used for censuses, whereas the latter, referred to as commensality, has been often preferred in anthropological studies given the great cross-cultural diversity in residential forms (e.g., where bachelor males live in a separate house but not constituting a separate household). This is an important issue to consider, since it will affect the results of studies such as the one cited above.

3.2. Organizing work

In the traditional Iñupiat division of labor, men hunted and made tools, while women processed food and raw materials, stored food, and gathered plant foods. Both men and women participated in fishing. This sexual division of labor could be flexible if needed and generally, everyone could accomplish a task corresponding to the other gender. For example, women could be recruited for hunting when shortages of male workforce occurred (Bodenhorn 1990). Nevertheless, the general pattern was that men hunted and brought animals only coarsely butchered to the settlement, and once they entered the household, women were in charge of turning them into food and raw materials.

In a study of the Iñupiaq of King Island and Diomede Island, Bogojavlensky (1969) describes a fundamental difference between two forms of hunting, which occur at different moments of the year, one is hunting by individuals on foot and by kayak, the other is hunting with the larger boat *umiak* in a crew. Not only the Iñupiaq distinguish linguistically between these two hunting types with a different word for each, but they also imply different organizational forms and patterns of distribution. Whereas hunting on foot or by kayak "is marked by individual, solitary effort, and by an initial procedure for sharing which is characterized by randomness as to the recipients", hunting with *umiak* "is characterized by close cooperative effort, extending over many months of the year and by sharing within an exclusive group" (Bogojavlensky 1969, 79). The first category includes hunting of land animals and small sea mammals through different methods, while the second corresponds to the organized hunting of large sea mammals.

Individuals on their own can hardly hunt walrus and bearded seal, let alone whales. These animals require cooperation and coordinated efforts by several hunters in order to kill, retrieve, tow and butcher them. Thus, hunting large sea mammals is done by specialized task groups, in Alaska usually referred to as whaling or hunting crews. The larger the animal, the more coordinated effort it requires, but also the animal's behavior plays an important role. In contrast to walrus that can be found in large groups, bowhead whales tend to appear alone or in small groups. Therefore, whaling requires also cooperation and coordination between hunting crews in order to monitor a larger area and increase hunting success (Ellanna 1988a). Furthermore, bowhead whales are so large that when one of them is hunted, the whole community has to be mobilized in order to butcher and process the animal.

Hunting crews are relatively stable units that endured over time beyond the immediate context of the hunt and play a central role in Iñupiaq social, economic and political organization. Hunting crew composition tend to remain constant throughout the season or even throughout the years, though hunters can and often do change their crew affiliation freely. Contrary to Spencer's (1959) argument that the hunting crew was essentially a non-kin organization that followed universalistic (as opposed to a kinship) principle for recruitment, where skill was the primary factor, other authors have demonstrated that, in practice, it was always composed by kin (Burch 1975; Bogojavlensky 1969) and patrilineal links were usually prioritized (Ellanna 1988b). In a later work however, Burch (2006) recognized that skill did play a primary role in recruiting whaling crews, especially for the role of the harpooner. Hunting crews were organized hierarchically according to seniority and skill. The leader of a hunting crew, referred to as *umialik* or crew captain, usually owned the boat and recruited hunters within his own compound family and across different households. Next in the hierarchy were the harpooner and the helmsman (often the *umialik* assumed one of these roles), followed by the rest of the hunters according to age and skill. There was a patron–client relationship between the *umialik* and the other crew members, and the *umialik* materially supported the crew for its hunting trips but also during and beyond the hunting season.

Women's work included drying, fermenting, storing, cooking, making seal oil for fuel and food, as well as processing and sewing skins for clothing and skin boats. While men constructed the wooden frames for the boats, women were in charge of covering them with the female walrus skins they processed and sewed together, as well as for maintaining them. Women were mostly in charge of sharing and distributing food and other resources within the family and between households.

3.3. Ethnography of Iñupiaq hunting crews

3.3.1. Relatively close relatives

As mentioned in the previous section, though skill played a significant role, hunting crews were recruited almost always on the basis of kinship ties, and usually from within one local family but different households (Burch 1975). The data collected during my fieldwork corroborate this view to some extent and indicates a certain continuity in this pattern. There were five active hunting crews in Wales in 2016. Figure 2 shows that, all members of every crew, except for only one person, are related to each other through kinship ties. When collating the kinship diagrams of hunting crews in Figure 2 with the genealogies of families constructed during fieldwork, it becomes apparent that hunting crew members often belonged to one extended family group. Furthermore, all crews had members living in at least two, often more, different households. At least in one case (crew E) all crew members belonged to different households.

Patrilineal ties to a captain tended to be prioritized for recruiting crew members (Ellanna 1988b). Only two of the five crews in Wales corresponded to this pattern (crews A and B). Furthermore, all but one crew included at least one affinal relative, and several members' ties to a captain include a combination of matrilineal and patrilineal links with no clear emphasis on either male or female lines. This may indicate either that patrilineal links have become less relevant for recruitment, or that captains may not be able to find enough patrilineally related males available or willing to hunt. There may be different reasons for the latter, such as demographic constraints, disruptions and discontinuities in family groups due to the epidemic of 1918–19, out-migration from the community, or time constraints due to job schedules. A core of patrilineal males may still be an ideal type of hunting crew, but the data presented in the kinship diagrams in Figure 2 show that captains also draw on other relatives in their kindreds, following 'concentric circles' of closer to more distant kin on both male and female lines, and including different kinds of affinals. Such practices are in accordance with the possibilities of the traditional kinship system discussed above.
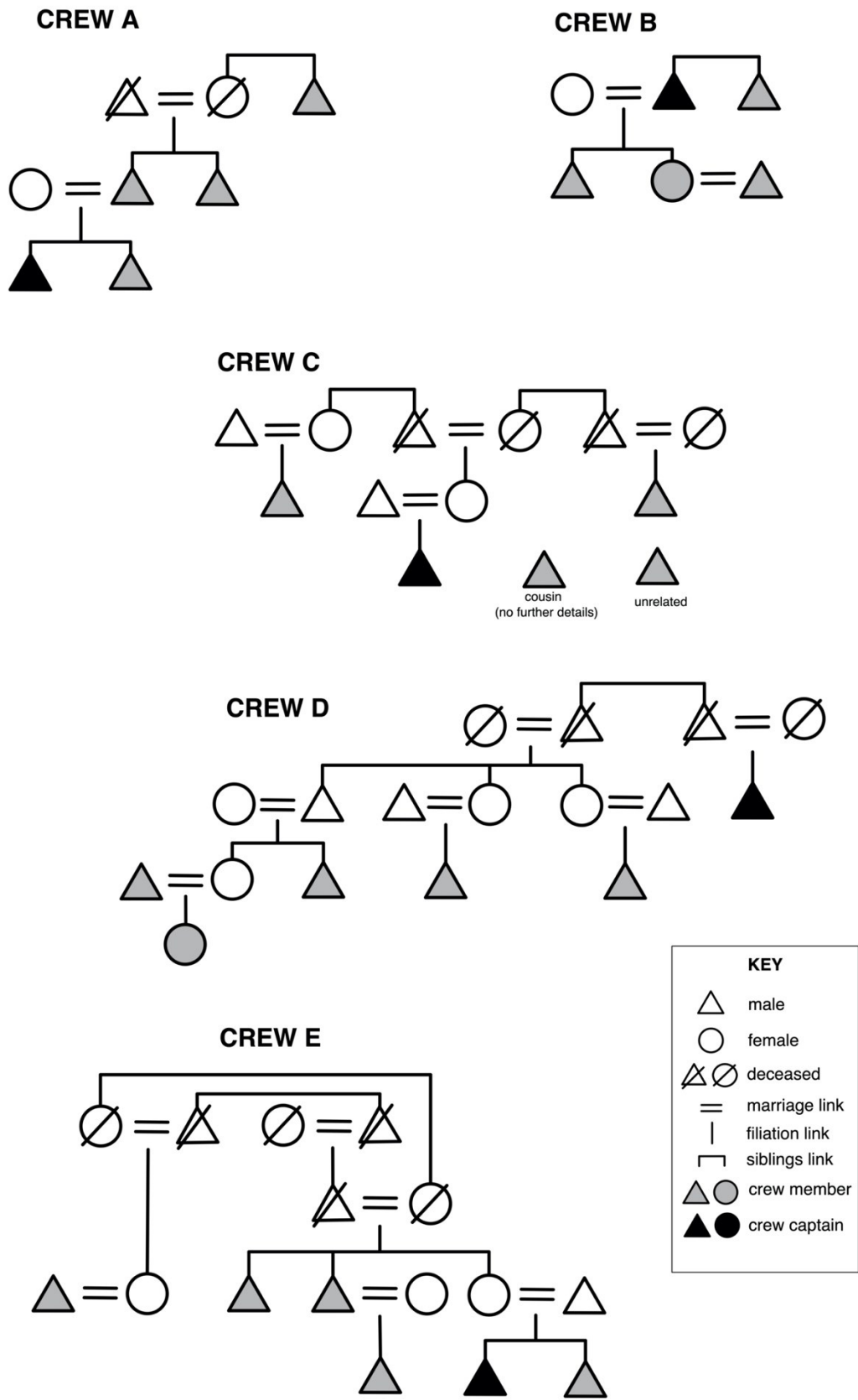
Figure 2. Diagram showing the composition and kinship relations between members of hunting crews in Wales, Alaska. Surveyed by the author in 2016.

3.3.2. Of hunting and men… and women

According to the traditional division of labor, women normally did not hunt or participate in boat crews. One crew captain in Wales said: "Women would stay at home and take care of the meat. It was taboo to take women in the boat." It is not coincidental that he expressed this in the past tense, for this has begun to change in recent times. In Figure 2 we observe that there are two women participating in two different crews. I have few information about the woman and the circumstances surrounding crew D, except that she is relatively young and that the captain says she takes her because "she has an Eskimo name of a hunter". In crew B, the captain's daughter, a young adult woman, regularly goes hunting with them and often pays for the fuel. She is the manager of one of the two stores in the village and lives in a separate house with her husband, who also hunts in the same crew. Not only she has the same status in the crew as the male hunters, but she might even assume leadership, as her father and captain of the crew expressed his intention to make her a captain one day.

It was mentioned earlier that the sexual division of labor was flexible enough in order to be adaptive to changing circumstances. For instance, women could be recruited as paddlers for whaling in times of labor shortages (Bodenhorn 1990). However, according to my informants as well as Burch (2006), women rarely were hunters and were never captains. Now this seems to be changing. Already during the 1970s several whaling crews in Barrow included the captain's wife (Worl 1980). More recently, Alaskan newspapers have reported on female whalers in Barrow, Wainwright and Kaktovik striking whales as harpooners (Kelkar 2016), which is one of the highest and most prestigious positions in a whaling crew. Not only are women hunting together with men, but they are also able to climb to the highest positions in their crews. Mirroring these developments, men seem to be undertaking processing activities formerly ascribed to women, such as butchering and storing meat. During fieldwork, I observed cases in which men alone or in companion of women were undertaking these tasks.

While the traditional sexual division of labor continues to be the predominant pattern in relation to hunting, and while it is true that this division of labor had been historically flexible and able to adjust to varying conditions, we do observe certain shifts in the traditional pattern. In particular, in relation to the possibility for women to hunt and be at the highest positions in whaling and hunting crews, and also in relation to a more diffuse and less strict allocation of tasks between the sexes. These shifts can be interpreted as part of broader shifts in labor and gender roles resulting from technological change and the integration of cash and wage employment, as well as the growing influence of US-American cultural values. Changes in

technology such as the transition from locally produced skin boats to imported aluminum boats, have affected the amounts of time and effort that women invest in tasks related to hunting, as they are no more involved in the intensive and time-consuming work of preparing, sewing together and maintaining skins for the boats. As a result, a significant part of women's labor has been disengaged in relation to hunting. Moreover, wage employment has induced a reorganization of labor at all levels in order to adjust to its time requirements, and women have been more involved than men in the wage sector, as discussed in the previous chapter (see sections 2.3. and 2.5.).

At the same time, the fact that women tend to earn more cash than men has provided them another way of participating in and influencing hunting, and getting their share from it. Bodenhorn (2000) has identified two ways in which people can be entitled to a share of the game hunted by a crew, one is by directly contributing to the hunting effort and participating in the hunt, and the other is through contributing to the means of production, i.e., fuel, equipment, transportation, provisions, etc. Women as cash earners usually contribute in the second way, and so they are entitled to their own share and dispose of it as they wish. This gives women autonomy, not only in the cash sector but also in the subsistence economy. In this context, Ellanna and Sherrod (1995, 34) have described "the phenomenon of 'silent' female skinboat captains providing the necessary financing for bowhead whaling". This access to cash income and the ability it entails to contribute to the means for hunting may not only explain the 'silent' female sponsorship of male hunting, but also the loud rifles being shot by female hands in the hunting and whaling crews across Northwest Alaska.

3.3.3. Seniority revisited

The third aspect regarding the organization of hunting crews is the issue of seniority, which is the principle through which hierarchies are formed according to relative age. As described by Burch (1975) and confirmed by informants during my fieldwork, hunting crews have been traditionally organized in a hierarchical way according to relative age and skill, in addition to wealth as a decisive factor for captainship. This is well summarized in the words of one hunter from Wales:

> If I'd take you for the first time in the boat, I'd take you at the back. You would have to put the things in and out of the boat, take the water out, make a fire, prepare food, make sure there's coffee for all. Then you could go to the next position and learn to use a gun out there. When you are good at that, you can go to the next position. You would have to climb the ladder up

to the front of the boat. And on the front sit only the most experienced and the elders. That's how it was passed to us over the generations. That's how we've taught to.

Traditionally, a middle-aged adult or elder is the owner of a boat and captain of a crew, and he recruits hunters belonging to his own and younger generations following (but not limited to) patrilineal links, e.g., brother(s), son(s), brothers' son(s), etc. In contrast to this pattern, we observe in Figure 2 that in three out of five crews (A, C, E) the captain was a younger man recruiting hunters from within his own as well as older generations, such as father and uncles.

Traditionally, an *umialik* or crew captain not only owned the boat but he also was wealthy enough in order to support and provision a crew during and beyond the immediate context of the hunt. While nowadays captains do not tend to materially support their members throughout the year, they are still expected to provide everything what is needed for hunting, including fuel, food, etc. This means that becoming a captain today requires having good access to cash income. In many cases, it is younger adults who have better access to cash income, allowing them to form their own crew. This phenomenon was already observed by Ellanna (1988b) as plywood and aluminum boats were introduced during the 1970s and began to replace skin boats. While formerly it was necessary to have access to walrus skins and to be able to mobilize enough people to work on the skin boats, now it was possible for younger hunters to purchase imported boats and thus form their own crews bypassing already established senior captains.

Limited access to cash income in the village has contributed to the erosion of hierarchies based on seniority. Oftentimes, captains alone, regardless of their age, cannot pay for the fuel and all the provisions for hunting, in which case members of the crew and/or other relatives pool resources together. Crews with both younger and senior captains pursued this strategy in Wales. For example: in crew B the captain's daughter (and member of the crew) bought the fuel; in crew C the captain's mother often contributed with money and fuel, and crew members sometimes too; in crew E the captain's brother who lived in another village owned the boat and either the captain, the captain's brother, or the captain's uncle paid for fuel; in crew A it was the captain who normally bought the fuel, but sometimes crew members would help. Pooling resources and sharing costs for gasoline with relatives and friends has been reported as well in other Native Alaska communities as a common strategy for coping with high fuel prices (Brinkman et al. 2014).

The introduction of cash and imported technologies have thus challenged the informal age hierarchies in relation to the hunting crew and made some senior hunters dependent on their junior relatives. This shift has partially transferred decision-making power, privileges and responsibilities to younger hunters, given that a crew captain decides who to recruit, when and

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where to hunt, gets some of the best portions of the hunted animals, and is also responsible for the safety of the crew and its members. At the same time, seniority has not been overthrown completely. Young captains that hunt together with father and uncles in their crew usually reported that they are still learning from them and often get advice from the senior crew members. This is something I also observed directly during one hunting trip with a junior captain and his uncle as helmsman, who constantly gave advice during the hunt. Nevertheless, while seniors can still play a leading role in hunting crews with junior captains, this configuration certainly contrasts with the discipline and obedience of juniors towards seniors in the past that has been reported by elders and is also found in ethnohistoric accounts.

3.4. Sharing, distribution, and exchange

Food sharing has been considered one of the hallmarks of foraging societies and has been studied from several perspectives with different explanations as for its origins and functions. Described in a variety of different ways, from altruistic, generous gift-giving to forced transfers by demand sharing or even as tolerated theft, sharing has an obvious economic function to distribute and allocate food. However, it is also a complex practice with several other dimensions. Sharing has been said to have a function for ensuring diet breath and reducing risk in relation to varying hunting success, unpredictable resources and environmental fluctuation. Thus, sharing has been reported to be more extensive with large game than with smaller game and more predictable plant resources. Sharing has also an important social dimension, nourishing social relations and contributing to social cohesion, but also acting as a levelling mechanism to prevent accumulation of wealth and maintain an egalitarian social order. Furthermore, there is an ideological and moral dimension of sharing, an 'ethos of sharing', which entails social norms and ideals that motivate and sanction individual behavior. Therefore, we might expect to find contradictions and conflicts between those ideals, norms and motivations, and the actual practices of sharing, something that has stimulated much research.

In an early stage of hunter-gatherer studies, Sahlins (1972) advanced the idea that food sharing constitutes a form of generalized reciprocity, i.e., a form of altruistic gift exchange without the expectation of an immediate return or only a diffuse expectation that something (not necessarily equivalent) might be returned at some point in the future. This conception, while quite popular, has been since then criticized on various grounds, questioning whether sharing is a form of exchange, based on reciprocity, and motivated by generosity. Researchers have argued that much food sharing among hunter-gatherers is initiated through constant

demands by others (Peterson 1993), that sharing constitutes an obligation sanctioned by social norms (Woodburn 1998), and that it usually involves one-way transactions that can hardly be perceived or conceived as exchange but rather as one-way transfers (Hunt 2000) or redistribution (Woodburn 1998). Furthermore, sharing needs to be understood together with land tenure and exchange, for these "are all permission-granting behaviors whereby hunter-gatherers regulate access to resources" (Kelly 2013, 138)

Ethnographers have observed considerable variation in sharing practices among foragers, and some have intended to organize empirical cases into more abstract typologies according to different criteria. For example, Testart (1987) identified two basic forms of sharing, in one type game is appropriated and owned by the hunter, who initiates the sharing, and in the other the hunter is dispossessed of the game, which is appropriated collectively and shared by someone other than the hunter. Testart further correlates these two sharing systems with two different forms of kinship. Kishigami (2004), rejecting the idea of sharing as reciprocity but rather defining it as a form of giving, classified food sharing along two axis: one constituting the form of the transaction or how food flows, and the other the way the giving is initiated. In the first axis, we find giving, exchange and redistribution, and on the second axis there is sharing based on rules, voluntary sharing, and demand sharing. From the combination of these categories result nine logical sharing types that, Kishigami argues, should be exhaustive for any cross-cultural comparison. Whatever typology we might use to classify and describe sharing practices, fact is that there is a great deal of cross-cultural variability of food-sharing practices among hunter-gatherers. Explanations of sharing and its variability have either focused on the individual motivations for and returns to sharing (in particular human behavoral ecology, for a review see Kelly 2013), or on the social formations and value meanings produced by and within which sharing practices are embedded, or both (Ready and Power 2018).

While it is beyond the scope of this thesis to discuss these theories in further detail and to cover the extensive literature on sharing, one thing stands out that is particularly relevant for the present case study and the broader issued discussed here. Sharing is the prevalent form of economic transactions among foragers and other kinship-based small-scale societies, and is distinct from and usually contrasted with market transactions and commercial exchange of commodities. Therefore, research on contemporary hunter-gatherers with mixed economies have raised questions about how cash economies, the integration of external material inputs and cash, and the commoditization of local resources, have affected food sharing (Wenzel, Hovelsrud-Broda, and Kishigami 2000). In Alaska and Canada numerous studies have focused on the effects of mixed economies on sharing networks and practices, and their relations to

kinship and social inequality (Bodenhorn 2000; Harder and Wenzel 2012; Collings, Wenzel, and Condon 1998; Dombrowski et al. 2013; BurnSilver et al. 2016; Magdanz, Utermohle, and Wolfe 2002; Ready and Power 2018).

The food sharing process begins with the division of the harvests, and this can be done differently according to the resource and activity involved. As mentioned in section 3.2., there was a fundamental difference among the Iñupiat between individual hunting on foot or kayak and collective hunting by crews in the larger *umiat* or skin boats, which corresponded not only to different forms of organizing work but also to different sharing patterns. In the solitary type of hunting, the animal belongs to the hunter that kills it, and he may share it with other people at his own will. Individual appropriation also occurred with fishing and hunting of small animals (birds, small seals) and bears, as well as with some forms of collective hunts in which animals like caribou or beluga were driven collectively but appropriated individually (Burch 1988). According to my observations, small animals like ringed and spotted seals or birds belong to the individual hunter also when they are hunted in the context of boat crews.

Large sea mammals, in contrast, were appropriated by the crew collectively and divided among its members. The division of adult bearded seal (*oogruk*) and walrus corresponded to one type of sharing, *aviktuuzaaq*, which meant "a division into equal shares among those in the party" (Burch 1988, 102), and eventually a share to the owner of the boat (if not part of the crew). There was a variation to this form, in which the captain or a senior family head took a larger and/or better part, but also more unequal division according to the rank of the hunters in the crew (Burch 2006, 169; 1988). Whaling, in which more than one crew is usually involved in the hunt and several other villagers participate in the butchering, involves a more complex procedure and unequal distribution of shares. The division of whales followed a set of rules that stipulated how shares are allocated among those who participated in the hunt as well as the entitlement to a portion for those who helped and assisted after the hunt (e.g., tossing and butchering) (Burch 1988). In this case, the *umialik* of the first crew to strike the whale directed the catch, or appointed an elder for that task, and so he and his crew ended up with the largest and better portions, though he was under heavy obligation to share his part and dispense gifts (Burch 2006, 160).

Despite the fact that game was either appropriated by or divided among individuals, and that domestic families could own food and store it in the household, ultimately, food was owned and pooled by the local or compound family and stored in family-owned caches. Because of this, Burch (2006, 153) argues that the division of large game such as bearded seal and walrus "had less to do with the ultimate disposition of the harvest, which was pooled [by the compound

family], than it did with sharing the work of processing it, which was divided more or less equally among the family's female members". Within the compound family food circulated mostly in the form of demand sharing, so that members of one family took food form the family-owned caches whenever needed (Burch 2006, 270; 1988, 108–109; Spencer 1959, 164, 193). In addition to processing and storing, food sharing within the family was mostly in the hands of women, and flows of food "frequently moved along lines of kinship and affiliation distinct from those of their husbands, sons, or other male kin" (Ellanna and Sherrod 1995, 31). However, family heads and in particular their wives managed family-owned caches and directed the redistribution of food and other goods within the family. This control over the family's food and other resources allowed them to accumulate wealth, which they used to create obligations and exert influence, i.e., through the distribution of gifts.

While sharing characterized the distribution of food within families, inter-family flows took the form of exchanges either on an individual basis or through ceremonial distribution and exchange. In ceremonial occasions and feasts, leaders, in particular *umialgich* (crew captains) but also powerful women such as the wives of captains, dispensed gifts in order to create obligations and alliances and to gain prestige, something that will be dealt with in more detail in the next chapter. Regional exchange between groups and across different ecosystems (especially between coast and inland) took place in the form of individual trading partnerships as well as in events like trading fairs and ceremonial instances of potlatch-like gift distribution and exchange. Moreover, the Iñupiat were engaged in long-distance trade routes spanning from Easter Siberia through North America that predated European contact, and Wales was in a strategic place for that intercontinental trade. Thus, sharing took different forms but it was not the only form of economic transaction among the Iñupiat. Burch (1988) identified nine different forms of transfers of property in traditional Iñupiaq society, with their corresponding conceptual distinction in Iñupiaq language. These transfers, which involved food and other goods, included forms of non-reciprocal sharing such as demand sharing and gift giving, as well as reciprocal exchanges and other forms of non-reciprocal transfers such as inheritance, buying (perhaps more accurately barter), and stealing.

According to ethnographic accounts as well as my own limited observations, the patterns for dividing game described above seem to remain rather unchanged. While I did not have the opportunity to observe whaling, I did observe hunters dividing walrus in more or less equal shares. As we returned from a hunting trip, the hunters in the crew discussed how to divided and expressed which parts they would like to keep or give to someone else, but the captain clearly directed the process and kept some key parts like the ivory tusks. Some parts were

packed right away and were destined to send to the owner of the boat who lives in another community. I also heard that crews have their own ways for dividing the harvest that can vary from crew to crew. One hunter told me that one crew divided equally because they belonged to closely related households and pool food together (see Crew B in Figure 2). Despite the rather anecdotal nature of my observations given the limited time for fieldwork, they do suggest that in at least some households food (and perhaps other resources) are pooled and shared as demand sharing, even if members live in different houses. Despite the problem discussed above about how to define and identify households, we can observe a certain continuity with how sharing took place within family groups. However, a certain tendency towards individualization of storing and consumption of food at the level of the households seems to have taken place. Storing facilities belonging to extended family groups appear to be less used as they have been replaced by household and community freezers. Larger collective caches, such as drying racks that were everywhere in the village as seen in historic photographs in Ray (1992), have become less frequent.

When asked about with whom they regularly share game, hunters named mostly relatives living in other households, most commonly parents, offspring and siblings, but also often aunts, uncles and cousins. Hunters living in single households (or alone with offspring) tended to name more, and more distant relatives to whom they gave shares of the game they hunted. The people to whom individuals said to share food were almost in every case relatives that belonged to their extended family groups. Studies with more extensive and systematic data, e.g., through application of social network analysis, corroborate the observation that sharing takes places mostly within extended family groups, indicating historical continuity in this respect (Magdanz, Utermohle, and Wolfe 2002; BurnSilver et al. 2016; Langdon and Worl 1981).

Sharing between households take both the form of one-way transfers as well as reciprocal exchanges. Households with active hunters give shares to people and households with no active hunters, such as elders, widows, or just relatives and friends who do not hunt, taking into account that wage employment constitutes nowadays an alternative livelihood to the subsistence economy. Hunters also provide shares to the community freezer, from which people may take food, or with which community commensal meals are organized. When I arrived to Wales the first time, the first walrus of the season had been hunted. Many of its parts were cooked and prepared in different ways and served with other 'Eskimo foods', as they call them, in a feast at the community building to which everybody could join and eat. These kind of gifts and distribution through feasting give prestige to the donor, as one hunter told me and in accordance with the ethnographic literature.

Between households actively involved in subsistence, sharing seems to have a more reciprocal nature. Some may exchange products in a quite balanced reciprocity, but many flows are not necessarily exchanges. Food and other goods, but also assistance with childcare, flows in both directions, but they are not exchanged in an immediate form. Households may also share raw food like seal blubber and get seal oil in return. For instance, a hunter shares a relatively large portion of a seal with his mother, sister or daughter, who lives in another household. She separates the meat, the blubber and the skin, and prepares seal oil with the blubber, which she later shares with the hunter and other relatives. These flows are typical between closely related households that either pool or share on a regular basis. With data from the North Slope, Bodenhorn (2000) argues that sharing involves flows of food mostly between households actively involved in hunting, with less frequent one-way flows towards non-active households. Therefore, she argues, sharing networks tend to be constituted by active households in reciprocal relations with one another.

Researcher have raised the questions whether cash and purchased goods might circulate through traditional or new sharing practices, as well as if and how they might enter sharing networks, with different results. For instance, among the Clyde Inuit from Nunavut, Canada, Wenzel (2000) suggests that the traditional system of sharing practices have incorporated imported foods, equipment such as snowmobiles and other technologies, and possibly even the money needed to buy them, though he indicates his data is not sufficient to fully corroborate this. In contrast, Hovelsrud-Broda (2000) argues that in Isertoq in East Greenland, cash and store bough goods are pooled and shared within households, but between households only country foods are shared. Though my observations from Wales are scarce in this respect, they suggest a similar situation as the one described by Hovelsrud-Broda. However, cash and purchased goods may flow, also one-way, between households in order to finance subsistence in the face of unequal access to cash as well as differential time availability for subsistence due to wage employment. For example, someone who has a full-time job may not have enough time to go hunting, but he can contribute with money or fuel and get wild foods in return. In this way, cash may enter sharing networks as one more resource. This can be interpreted as an adaptation of sharing to socioeconomic change.

In this sense, Langdon and Worl (1981) argue that cash is not shared but it can be provided in order to get a share of a subsistence harvest. At this point, it is worth discussing Bodenhorn's (2000) distinction between shares and sharing. Parting from an empirical study among Iñupiaq households in the North Slope, the author defines the noun 'share' as "something one can earn as an individual within Iñupiaq social organization" (Bodenhorn 2000, 29). Shares, the author

argues, are not about reciprocity but are rather something to which people are entitled to by contributing to the hunt, and shares do not depend on negotiation or generosity. People can therefore be entitled to shares in two ways: either by actively participating in the hunting effort, or by contributing to the means of production (e.g., providing equipment, buying fuel, etc.). The author defines sharing as "a complex of social actions all of which create and maintain morally valued relationships that extend well beyond hunting itself" and are based on reciprocity (Bodenhorn 2000, 28). I disagree with the author in the point that people can also be entitled to shares, especially from whales, by the simple fact of belonging to the community. While the author recognizes that the latter are not 'earned', I believe that these transfers have a fundamental difference. In the case of someone who contributed to the hunt, the person has the right to receive a share, whereas those transfers to people that did not contribute in any way to the productive process depend on the decision of the hunter (or other person) to share to give away. These transfers are not demand sharing. While there might be a moral obligation and social pressure on the giver, there receiver does not necessarily have the right to claim a share. Furthermore, as already discussed earlier, it is arguable whether sharing is about reciprocity or not.

In the same paper, Bodenhorn (2000) describes that the moral obligation for hunters to share is grounded in the Iñupiaq belief that animals give themselves to the hunter only if the hunter shares with others in the community, making the case for a generalized reciprocity between humans and animals. While the term generalized reciprocity is arguably inadequate in this context, this brings up the issue of property. Land is common property and wild animals do not belong to anyone. When they are hunted, they are appropriated by either individuals or a task group. Contributions to the hunting effort, be it through active engagement or indirectly through providing fuel or equipment, give people property rights in relation to game and entitles them to shares. In contrast, earning cash, e.g., through wage labor, follows another logic and it is not based on common-property resources. This may be an important factor to consider when looking at the differences between food sharing and the circulation of cash and purchased goods.

Another phenomenon that has been repeatedly observed in Alaska is that some households not only produce more than others do, but they also give away more than other households in the community. Based on quantitative data collected among several communities across Alaska, researchers found a recurrent pattern in which around 30 percent of the households harvest about 70 percent of the subsistence production in a community (Magdanz and Utermohle 1998; BurnSilver et al. 2016; T.F. Thornton 2001; Wolfe 1998). These households

that have been referred to as 'super-households' usually have higher cash incomes and not only produce more than what they consume, but also give away more than other households do and tend to give away more than what they receive, thus occupying central positions in sharing networks.

While a similar pattern might have existed in traditional times, it certainly has relations with the contemporary mixed economy. One possible factor for this asymmetric or unequal production and sharing of food might be that there is considerable variance within communities as to the availability of cash and time for subsistence involvement. While flows of food might be unbalanced in one direction, flows of cash, fuel, equipment, or other goods or even assistance (e.g., childcare) might flow correspondingly in the other direction. In the North Slope, Bodenhorn (2000, 40) maintains that the "circulation of food is paralleled by the circulation of many other things: equipment, mutual help, children, political support". This is something for which I do not have data but is certainly an interesting issue that demands further inquiry. Flows of food in sharing networks could be compared to other flows such as cash, purchased food, equipment, or assistance. Harder and Wenzel (2012) found that among the Clyde River Inuit in Canada, while country foods are shared along kinship lines, imported foods appear to be shared on an ad hoc basis, and cash is in the control of individuals.

Sharing has been consider as a mechanism that, among other things, prevents wealth inequalities to emerge or intensify. Harder and Wenzel (2012) argue that growing inequalities in terms of hunting and fishing equipment and subsistence production between lower- and higher-income households are moderated and buffered through sharing and shared access to equipment. In a study of the Inuit of Nain in Labrador, Dombrowski et al. (2013) found that, the centrality of wealthier households and individuals in sharing networks does not lie on their greater productivity, but rather on their better financial position to give away a larger portion of their harvests than those who are more strongly dependent on subsistence. Furthermore, the study found that wealthier households share more with one another than with less wealthier households, which seems to correspond to the pattern described above by Bodenhorn (2000). However, sharing networks may also reproduce income inequalities between households. In a study using social network analysis, Ready and Power (2018), suggest in a counterintuitive fashion that sharing practices among Inuit from Nunavik, Canada, have reinforced economic and political inequality in the village. The authors argue that greater wealth enables people to engage more in subsistence and to share more, therefore having central positions in their social networks and having greater influence in their community.

Another issue to consider is whether different types of sharing might be differently affected by market integration, and how different sharing types adapt to socioeconomic change. Just as we saw that some subsistence practices persist or are even enhanced while others are abandoned, certain types of sharing might be favored at the expenses of others. In a study of the Holman Inuit from Canada, Collins, Wenzel and Condon (1998) found that seal-sharing partnerships that are based on balanced reciprocity have become less frequent, while the 'voluntary' form of non-reciprocal gifts and sharing remains important in the contemporary socioeconomic system. The authors explain this with a general decrease in seal hunting and in the importance of seal relative to other resources as a result of changes in settlement patterns and the emergence of a mixed economy. Furthermore, the authors argue that there has been an increased importance of kinship in sharing patterns and networks, which they attribute to the effects of sedentarization and centralization, as well as to the reduced need for sharing partners beyond kin to secure food.

4. Leadership and social inequality

Social inequality is a complex and multidimensional phenomenon related to hierarchy as organizational principle and the unequal allocation or status, resources, and power. It has been defined in different ways and studied from many angles. For decades, anthropology and archaeology have been interested in understanding the origins and evolution, as well as the different forms and degrees of social inequality cross-culturally. The field of social inequality is tied to the study of hunter-gatherers, in particular because social inequality has emerged from egalitarian hunter-gatherer bands. Explaining egalitarianism has therefore become an integral part in the study of social inequality. Part of this field has concentrated on non-egalitarian hunter-gatherers and so-called transegalitarian societies with incipient forms of institutionalized social inequality. While much of this research has focused on foragers of the Pacific Northwest Coast as well as Melanesian horticulturalists, less attention has been given in this respect to high-latitude hunter-gatherers such as the Iñupiat of Northwest Alaska.

In a previous publication, I have examined the transformations in the bases, forms, and dynamics of leadership and social inequality among the Iñupiat from the commercial whaling era to the present mixed economy (Buela 2020). This chapter builds on that paper, adding an introduction to the topic and expanding the discussions and the data presented therein. First, I present some definitions of social inequality and discuss some of the main problems and insights from the field that are particularly relevant for this thesis. Second, I describe in detail the traditional forms of social inequality among the Iñupiat in relation to age, gender, skill, material wealth, and social networks, based on the ethnohistoric and ethnographic literature. In doing so, I discuss some of the theories and concepts developed within the field of social inequality. Finally, I turn to the historical and contemporary transformations of the traditional patterns of social inequality. For this purpose, I draw on several of the issues discussed in the previous chapters, such as changes in subsistence and economic organization, to examine the impacts of socioeconomic change on inequality. Thereby, I will give particular attention to shifts in leadership and political institutions in the contemporary mixed economy.

4.1. What is social inequality?

There has been a long-standing interest in anthropology and archaeology in understanding the foundations and dynamics of social inequality. For about half a century anthropologists and archaeologists have been jointly and systematically to understand the origins and evolution of social inequality, as it emerged among prehistoric hunter-gatherers as well as incipient and early agriculturalists (Price and Feinman 1995b, 2010a). Inequality has become a ubiquitous phenomenon and a pressing issue among contemporary societies around the globe, and therefore it becomes all the more important to understanding the principles and factors underlying its development and dynamics.

Researchers have defined inequality in different ways, recognizing that there are economic, political, and ideological dimensions, which may not necessarily be coterminous (Price and Feinman 1995a, 4). Whereas focus can be placed on one of them in order to define inequality, an all-encompassing definition is probably the most useful approach, since it allows then to investigate the interrelationships between its different dimensions. One such comprehensive definition has been provided by Price and Feinman (2010b, 2), and reads as follows:

> Social inequality, the organizing principle of hierarchical structure in human society, is manifested in unequal access to goods, information, decision making, and power. Status is the determinant of social position, and status differentiation is the foundations of inequality.

Status has been identified as being at the core of social inequality. Through status differentiation, people can be ranked in different and hierarchical ways and granted differential access to resources of any kind, be it food, land, tools, mates, or information. Hierarchical structures require ascribing people or groups different positions within the social system, and this takes place through status differentiation. Every form of hierarchy implies some form and extent of status differentiation, and different human conditions or parameters can be used for that purpose such as age, gender, and class (Price and Feinman 2010b, 2).

Wiessner (1996) has distinguished two perspectives on status, an ethological and an ethnological. The ethological concept of status refers to the vertical rank of individuals in a group and is related to the concept of attention structures. A given rank position can be achieved through either prosocial or antisocial behaviors. From this perspective, the status quest in humans is universal, given that is a biologically rooted predisposition that has been selected for because higher status grants access to resources and mates and therefore increases reproductive success. The ethnological or sociological concept of status refers to position in a social structure, which is associated with specific behaviors, attitudes, rights and obligations. Status

in human societies can be achieved or ascribed and they are defined by culturally established criteria.

Roscoe (2020) defines social inequality as the outcome of power relations and status differentials, where power denotes the capacity to get things done through the actions of others, and status differentials are understood as both dominance and prestige hierarchies. Roscoe argues that status differentials are created through differential or unequal access to different forms of capital such as economic, social, symbolic capital, which as Bourdieu (1986) contends, are mutually convertible. Capital in tandem with power can create and intensify social inequalities: "Capital is the vehicle for the exercise of power, but power is a capacity that can be used to beget capital." (Roscoe 2020, 30). While dominance and prestige can co-exist in the same society, "prestige competition is the more common pathway to power in non-state societies" (Moreau 2020b, 2). In societies with a strong egalitarian ethos, prestige is the only acceptable (and to some extent possible) form of accumulation (Wiessner 1996).

Anthropologists have long distinguished between egalitarian and non-egalitarian societies, classifying them in different ways. For example, Fried (1967) distinguished between egalitarian, ranked, and stratified societies, in a cultural evolutionary framework. Among egalitarian societies, status is based on achievement and eventually sex and age, there are as many prestige positions as people to fill them, and there is equal access to economic resources. Ranked societies have limited status positions that only few individuals can occupy them, people and groups are ranked based on kinship, and collective access to critical resources such as land but restricted access prestige resources. Stratified societies have status differentials based on class with differential access to strategic resources.

Ranked societies include a great variety of societies, from relatively egalitarian 'big-man' societies to more hierarchically organized chiefdoms. Therefore, Hayden (1995) has proposed the category of transegalitarian societies, which are neither egalitarian nor politically stratified, with limited status positions that are achieved and not ascribed. Those status positions are not inherited and are therefore more ephemeral than ranked societies, societies. Status positions may be based on age, gender, or skill, but most importantly, they are also based on economic inequalities. Such inequalities however, are not institutionalized into fixed and stable hierarchies, like they are in ranked chiefdoms. Transegalitarian societies include non-egalitarian hunter-gatherers as well as horticultural societies.

One assumption that has been questioned over the last decades is that hunter-gatherers are 'egalitarian default' (Moreau 2020b), meaning that hunter-gatherers are egalitarian only because they lack social inequality. Rather, egalitarianism is the result of social institutions,

cultural norms, and levelling mechanisms, which dampen certain behaviors, preventing inequalities to become institutionalized. Under certain conditions, egalitarian behaviors have been an adaptive tool for cooperation, learning and alliance building (Price and Feinman 2010b, 3). However, the absence of persistent forms of social inequality does not necessarily imply a complete absence of inequality and status differentials, while an egalitarian ethos can mask prestige hierarchies (Moreau 2020b). Furthermore, the existence of non-egalitarian hunter-gatherers is no exception (Kelly 2013), and researchers have been finding increasing evidence for the existence of status differentiation and social inequality during the Upper Paleolithic (Moreau 2020a). Hunting and gathering per se is not a precondition or determinant of egalitarianism.

It is general assumed that some forms and levels of inequality exist and have existed in virtually every human society, and to be rooted to some extent in biological predispositions. The same as hunter-gatherers are not egalitarian by default, egalitarianism is not the blank slate of human society. Rather, social inequality (re)emerges when egalitarian institutions and levelling mechanisms are lifted. As anthropology and archeology recognizes that inequality exists in all societies, "the important question then becomes not when did inequality appear but, rather, why does inequality intensify and become institutionalized" (Price and Feinman 1995a, 8). The factors and conditions that lead to the lifting of egalitarian institutions has stimulated much research and continues to be a matter of debate. To name a few, factors may include resource structure, population pressure, food storage, the defensibility of resources, the inter-generational transmissibility of wealth, and the dominant behaviors by individual aggrandizers, to name a few. Approaches and explanations differ in their focus on either external factors (e.g., environmental factors) or internal factors (e.g., individuals' strategies) in relation to society, emphasizing either systemic causality or individuals' action, macro or micro processes of change.

4.2. Social inequality among the Iñupiat

Studies of transegalitarian societies have typically focused on the hunting-gathering-fishing societies of the Pacific Northwest and the horticultural societies of Melanesia, sometimes described as 'big-man' societies. The Iñupiat, as well as other 'Eskimo' groups, can be rightly included in the category of non-egalitarian hunter-gatherers, or transegalitarian societies. Nevertheless, the Iñupiat and other arctic foragers have been given less attention in the research of social inequality with a few exceptions. Sheehan (1985, 1995), for example, argues that the

whaling surplus among prehistoric economies in Northwest Alaska led to population growth as well as to greater regional integration and interdependency through trade. Unequal distribution of surplus and access to trade allowed higher levels of inequality and social complexity to arise, but also higher degrees of territoriality and higher intensity of warfare. He speculates that, were it not for the historical developments that led to dramatic population declines and the termination of war through contact, new forms with higher levels of inequality and social complexity might have arisen. Following a different approach, (Schweitzer 2003) argues that ecological variables are insufficient to explain the variations along the continuum between relatively egalitarian to ranked societies found in the North Pacific Rim region. These variations, he argues, must be understood by looking at the history of regional interactions between different cultural frameworks and sociopolitical orders, which conditions the way social inequality is expressed in a particular society.

In fact, I believe the two types of explanations mentioned above may not be entirely incompatible. Ecology, economy and warfare may come a long way in explaining the emergence of certain sociopolitical patterns and institutions in rather long time scales, but we need to look to history and the specific internal sociocultural dynamics of a given society in order to explain variation over time and space. As it will be argued later, looking at how different political strategies along a continuum might be followed by individuals and groups in particular ecological, economic, and sociocultural contexts, as in dual-processual theory, can be a useful way to integrate different variables to explain variation.

The ethnohistoric and ethnographic literature describe traditional Iñupiaq society featuring patterns of social inequality and forms of leadership based on age, gender, skill, and wealth. The latter was arguably the most significant source of inequalities and power, most prominently in the role of the *umialik*, a whaling/hunting crew captain and leader. These leaders were in many ways comparable to the 'big-men' described in the anthropological literature in other parts of the world (Schweitzer 2003). In the remainder of this section, I will discuss the traditional patterns of social inequality among the Iñupiaq as well as the bases and dynamics of leadership.

4.2.1. Age hierarchies and seniority

Age and gender are the two most basic criteria used by societies to establish differences between people and to create groups, e.g., for purposes of division of labor and for ranking people. Despite variation in form and degree across societies, age is found as a factor for leadership

also among egalitarian hunter-gatherers (Lee 1982; Endicott and Endicott 2012; Woodburn 1982). Elders usually act as leaders, they are treated with particular deference, and their voices are given an important role in decision-making. However, this status does not grant them with the power to decide for others. Among non-egalitarian hunter-gatherers like the Iñupiat, age can become a factor for social inequality.

Iñupiaq social life was organized according to informal age hierarchies, and leadership patterns were shaped largely through the principle of seniority. Nevertheless, the Iñupiat lacked any hierarchical arrangement of objectively defined age groups. Rather, seniority implies that seniors have some kind of authority or priority over juniors. Status difference and hierarchy is based on relative age. Thus, seniority is situational and contingent on the age differential in a given relationship. In general, senior males who were head of households had more authority than anybody else (Burch 2006). Seniority among the Iñupiat differed from the one found among egalitarian hunter-gatherers inasmuch as it implied unequal allocation of power.

In addition to the principle of seniority, there is evidence in the ethnohistoric literature of the prominent political role of elders as a group beyond the context of the family and in the community at large, especially in matters of social control and certain decision-making. The political role of elders is described by Ray (1992, 107) in the following way: "Every men's house [*qargi*] had one or more leaders or chiefs [*umialik*], who worked in conjunction with an informal council of elders in matters of tribal affairs." The extent of the high status and power of elders in this context is expressed by Burch (2006, 308), who writes that "[a]n *umialik* had to be extremely brazen to go directly against the collective wishes of the elders, and suffered an enormous loss of esteem and support if he did so".

Nevertheless, it is worth noticing that elders did not constitute a ruling class or elite, they did not monopolized resources or women like among some Australian aborigines, and the Iñupiat had no initiation cults that could be used for the demarcation of exclusionary age groups. In the absence of such indicators, it would be wrong to assume the existence of some kind of gerontocracy. Though a certain hierarchical arrangement based on age was present, this was still confined to an informal age hierarchy rather than to the more institutionalized forms of inequality and stratification of gerontocracies and gerontocratic regimes.

4.2.2. Gender (in)equality?

Gender inequality had long been thought to be as universal. Studies of egalitarian hunter-gatherers have often remarked that some inequalities exist along age and gender lines (Lee

1982; Woodburn 1982). However, other studies have disputed the universality of gender inequality, demonstrating that some hunter-gathers are effectively gender egalitarian. One example is provided by Endicott and Endicott (2012) in their ethnography about the Batek of Peninsular Malaysia. They define a gender egalitarian society as follows:

> We define gender egalitarian societies as those in which neither males nor females *as groups* have control over the other sex and neither sex is accorded greater value than the other by society as a whole. […] This definition combines a behavioral criterion, control, with an ideological one, the people's evaluation of the sexes and their actions. (Endicott and Endicott 2012, 12, emphasis in original)

According to Kelly (2013), gender inequality is also the first form of inequality to emerge among hunter-gatherers when egalitarian institutions are lifted. In line with Woodburn's (1982) conception of individual autonomy as the core of egalitarianism, and with the definition cited above, Kelly (2013) suggests that one effective way to measure the forms and degree of gender inequality among societies is to look at marriage patterns and the degree of autonomy of women therein. Another useful way to examine gender (in)equality is to look at women's degree of control over their own work and its produce (Leacock 1978). We will look at these two dimensions in Iñupiaq society as described in ethnographic and ethnohistoric sources.

Regarding marriage, we can identify a tendency towards male dominance and control over women in the ethnographic record. In his work about the 'The Eskimos', including but not restricted to the Iñupiat, Birket-Smith (1936) depicts a clear gender inequality in this respect. He writes that "the husband's right to dispose freely of his wife and himself" (Birket-Smith 1936, 143) characterize 'Eskimo' attitudes towards marriage, based on the observation of practices such as the offering their wives to guests,[8] men punishing wives for infidelity, wife exchanges as a means to strengthen male friendships, and even marriage by capture, e.g., by shamans (Birket-Smith 1936, 143–145). Spencer (1959) describes a similar picture in his ethnography of the Iñupiat, arguing that "[s]exual rights were de facto property rights" (p. 99), alluding to disputes between men over women, and violence against women such as in cases of adultery, with blame usually put on women (p. 75–84). According to Spencer, abduction of women for sexual or marital purposes was common (p. 79–80), and wife lending and wife exchange was arranged between men without consulting the women involved (p. 83–84). Marriages were arranged by parents or families in many cases, but this applied as much to

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[8] Burch (1975) disputes the fact that this might have been an Iñupiat tradition, arguing that it was rather an outcome of the colonial encounter with Europeans.

women as to men. Despite their decreased autonomy in matters of marriage, there are also references in the literature that women could also refuse to marry a certain man, authors generally agree that women could terminate and dissolve a marriage (Burch 1975; Guemple 1995; Spencer 1959; Birket-Smith 1936).

In the context of the household and the family group, "males generally had authority over females" (Burch 2006, 310). However, women were usually consulted by their husbands and their opinion was generally considered in decisions concerning household matters (Burch 2006, 310; H.R. Thornton 1931, 64). However, gender intersected with age in regard to authority, and seniority often had primacy over gender (Bodenhorn 1990, 7; Guemple 1995, 22). In the public sphere, leadership and politics was to a large extent dominated by men. Task-group leaders such as the *ataniq* were generally men (Burch 2006, 68). According to Guemple (1995, 2), among 'Eskimo' societies, leaders "have always been men, and the task of formulating collective opinion and organizing any kind of collective action has invariably been left to them". Also whaling captains or *umialik* were exclusively men. According to Ray's (1992, 107) informants, "women had never been chiefs". The *qargi*, with its political and ceremonial functions and led by an *umialik*, has often been translated as the 'men's house', because it was mainly men that gathered there, and women were only allowed to enter for bringing in food and on ceremonial occasions (Ray 1992, 106).

In the economic sphere, women enjoyed relatively high levels of autonomy and control over their own labor and its products. Being in charge of the processing, storing, and sharing food gave women a great deal of control over the resources of the household and family, so that "a woman wielded control over many of the raw materials, particularly food, what were produced by the members of her family" (Burch 2006, 310). Given that women were in charge of food storage and distribution within families, and that they were free to trade independently from their husbands through their own trading partnerships (Spencer 1959:177), it is appropriate to affirm that women had considerable autonomy in relation to the products of their labor. Particularly powerful women, like the wives and mothers of boat captains, not only controlled and managed food caches but also used food surpluses at hand to dispense gifts among people in order to create ties of obligations (Ellanna and Sherrod 1995).

From these accounts, it can be argued, on the one hand, that there were certain forms and levels of gender inequality in traditional Iñupiaq society, especially in relation to autonomy in martial matters as well as to authority in public and political affairs. On the other hand, it would be difficult assert that there was a general gender hierarchy, if we consider the relative autonomy of men and women within their own spheres of economic production and

distribution. One concept that may be useful to describe this phenomenon is that of heterarchy, which has been defined by Crumley (1995, 3) as "the relation of elements to one another when they are unranked or when they possess the potential for being ranked in a number of different ways". In the cited paper, Crumley points to the fact that the relative importance of power bases can change in relation to the context of inquiry, and hierarchy and heterarchy can coexist. Heterarchy may therefore be more appropriate to describe a variety of social (and other) phenomena in which the elements of a system are not ranked in permanent hierarchies. Gender relations in traditional Iñupiaq society can be described as heterarchical. Males and females could be ranked in a hierarchical way like in public, political and ceremonial contexts, but heterarchical in relation to the autonomy of male and females in their own economic. Certain men and certain women could equally have positions of leadership and influence, using similar strategies, albeit in different social contexts and in different kinds of economic activities.

4.2.3. Skill and knowledge

Skill is an important factor in defining leadership and prestige among hunter-gatherers. Good and skillful hunters usually enjoy higher prestige status, and often have leadership roles in their communities. Among egalitarian hunter-gatherers, levelling mechanisms prevent differences in skill to develop into economic inequalities or power imbalances. However, better hunting skills has been found to correlate with higher reproductive success and higher prestige for hunters, which may indicate that skill can translate into benefits other than material wealth or social power, such as access to mates and increased reproductive fitness (Smith 2004).

Skill and knowledge can become an important factor for leadership for collective activities require certain level of organization and coordinated efforts, such as hunting large game and warfare. Among the Iñupiat, such was the social role of the *ataniq*, a task-group leader who was particularly skillful, knowledgeable and apt for directing and coordinating collective hunts of large sea mammals in coastal settlements, hunting of caribou runs in inland regions, and warfare (Burch 2006, 68). It is important to notice that an *ataniq* was a leader of a task-group and not necessarily a family head or a community leader. Leadership was restricted to the specific activity and for the time it lasted. "Context was crucial here" and thus the leader's "sphere of influence fluctuated accordingly" (Burch 2005, 88–89). The leadership of the *ataniq* does not seem to differ much from the situational, task-oriented, and transient forms of leadership also found among egalitarian hunter-gatherers (Barnard 2002, 9–10).

Task-group leaders possessed practical knowledge, e.g., about the environment, about human psychology, about techniques and how to use tools. However, there is another type of knowledge that can function as a source of power and leadership, which is knowledge about the supernatural, or what we can refer to as ritual knowledge. Roscoe (2000) has highlighted the important role of ritual knowledge and knowledge about prestige objects, in addition to material wealth, in defining leadership among several 'big-man' societies in Melanesia. Hayden (2020) has made this point with the example with the case of mystified knowledge used by secret societies in order to legitimize power and inequalities.

Ritual knowledge might have played a role in defining leadership among the Iñupiat, in particular in the case of. Birket-Smith (1936, 143) mentions the existence of shamans among 'Eskimo' groups who were powerful individuals using coercive resources for their own benefit and to impose their own will. The role of *umialik* leaders also involved a ritual aspect. According to Spencer (1959, 178, 445f), the *umialik* had ritual and ceremonial duties acting as a priest of the whaling cult and performing rituals in relation to the hunt. However, ritual knowledge probably was not the defining aspect of his leadership.

4.2.4. *Material wealth-based leadership*

The *umialik* was the most prominent leader in Iñupiaq society, and his leadership rested primarily on his material wealth and his ability to control the means of production. His material wealth consisted in tools and hunting equipment, and in particular the ownership of one or more skin boats, in addition to food surpluses and trade goods (Burch 2006, 167). However, in order to be an *umialik* a man needed to be able to lead a whaling or hunting crew and to create a followership among relatives. This conflation of material wealth and leadership is reflected in the meanings of the word *umialik*, which is usually translated as boat owner, but includes other meanings and connotations such as captain, leader, boss and rich man (Bogojavlensky 1969, 47; Burch 2006, 66; Spencer 1959, 152).

The ownership of skin boats was a decisive factor in the power and influence of an *umialik*. The skin boat played a central role in the ecological adaptation and livelihoods of coastal Iñupiat. The skin boat was the means through which the Iñupiat obtained the largest bulk of their food and raw materials, and it served as a transportation means for moving whole households and families between winter villages and summer camps. Furthermore, the skin boat provided access to long-distance trade, the latter of particular importance in the Bering Strait. Therefore, it is not surprising that the skin boat "was regarded as the most valuable single

piece of property" (Spencer 1959, 156). Owning a boat and being the leader of a crew conceded the *umialik* certain benefits that have been described in the previous chapters, such as keeping the best parts and a larger portions of game hunted by a crew (Burch 2006, 160-169; H.R. Thornton 1931, 170), but also gave him access trade goods. In order to control the ownership of boats, the *umialik* restricted access to a key resource, female walrus hides, which were used to covering the wooden frame of the skin boats. In doing so, the prevented other (younger) men to build their own boats and form their own crews (Bogojavlensky 1969, 70; Ellanna 1988b, 112-113).

The Iñupiat lacked any formal rules for inheritance of property, as well as any hereditary statuses or office. However, in practice, skin boats and material wealth as well as the status and role of an *umialik* usually passed from fathers to sons, and often to the eldest son, according to informants in Wales as well as to the ethnographic literature (Birket-Smith 1936, 149f; Ray 1992, 107; Burch 2006, 272). However, inheritance was subjected to the skills to manage that wealth and to be a competent hunter and crew captain (Spencer 1959, 152). This is crucial in determining the higher levels of inequality among the Iñupiat in comparison to egalitarian hunter-gatherers. A cross-cultural study by Borgerhoff Mulder and colleagues (2009), distinguishes between three types of wealth: embodied wealth (physical and cognitive capabilities), relational wealth (social networks), and material wealth. Analyzing data from several small-scale societies, including but not restricted to hunter-gatherers, the study found that embodied and relational wealth are more important than material wealth among hunter-gatherers and some horticulturalists than other societies like intensive agriculturalists. Furthermore, the study found a positive correlation between the importance of material wealth in a given society and the degree of intergenerational transmissibility of wealth, which accounts for greater social inequality.

Woodburn (1982) argues that one of the defining features of egalitarian societies with immediate-return economic systems is that individuals are not dependent on specific others but rather from the group as a whole. This implies a generalized access to the means of production so that no individual can be deprived of the resources needed for subsistence. This is a pivotal issue that distinguishes egalitarian from non-egalitarian societies, and one that determines if and to what extent inequalities might exist. By controlling skin boats, *umialgich* controlled an essential part of the means of production, allowing them to create relations of dependency, as people depend on them to hunt large sea mammals and be entitled to shares of large game.

How exactly was this partial control of the means of production deployed to create dependency? In environments with strong seasonal variability like in the Arctic, resources are

usually available in bulk during relatively short periods of time, and therefore food must be stored. Strong reliance on storage has been identified as a factor, or at least a precondition for social inequality (Testart 1982), and it certainly played a central role in leadership of the *umialik*. As described in the previous chapters, Iñupiat stored food through different techniques in communal facilities that were to some extent controlled and managed by *umialgich* and their wives, or other head of families. Through this control of stored food, the *umialik* was able to accumulate surpluses, which he used to create dependency and ties of obligations and debt among his followers and supporters, e.g., by dispensing gifts and supporting his crew members beyond the context of the hunt. In this way, his influence and leadership became more stable and less context-bounded than a task-group leader: "The umialik role, unlike the ataniq role [a task-group leader], was not context sensitive: a rich man was wealthy whether or not he actually directed a particular activity or crew" (Burch 2006, 66).

The strategies deployed by the *umialik*, strongly resemble the type of leadership of 'big-men' in Melanesia (Sahlins 1963) and "aggrandizers" among transegalitarian societies (Hayden 1995). Like the Melanesian 'big-men', the *umialik* redistributed accumulated surpluses produced by members of the group, in order to create a followership. Another typical strategy deployed by 'big-men' and 'aggrandizers' in transegalitarian societies is the use of feasting, in order to amass and control surpluses controlled by others (Hayden 1995). The *umialik* was also engaged in forms of competitive feasting, especially regarding the Messenger Feast, an event taking place in winter involving athletic competitions, dances, and gift exchange. In the Messenger Feast, one *umialik* would host the event and invite another *umialik* from a different village together with his followership, to whom great amounts of gifts were offered, including food, clothing, equipment and dogs (Spencer 1959, 210–227). For this purpose, the host *umialik* accumulated goods with the support from not only his followers but also other *umialgich* in his own community, usually over years (Spencer 1959, 210–227). This strategy served to enhance status of the host as well as to create inter-group alliances.

Bride wealth is another strategy used by aggrandizers (Hayden 1995). The practice of bride wealth apparently was not developed among the Iñupiat, even though some informants in Wales described similar practices. However, among the culturally similar Siberian Yupik of St. Lawrence Island, with similar ecological conditions and economy based on large sea mammal hunting, bride wealth has traditionally been a widespread practice that continues to exist in present days.

4.2.5. Strategies of group affiliation

Political strategies used by leaders are closely interrelated to forms of group affiliation and faction building, and therefore also with kinship among stateless societies. Building on the ethnography of New Guinea, Strathern (1969) developed a model to conceptualize the different strategies used by leaders, distinguishing between the finance and the home production strategies. In the former one, leaders accumulate wealth and power through their networks beyond their own group by controlling and monopolizing trade and creating alliances. In the latter one, leaders depend more on the labor force of their own followership in order to accumulate and create a faction. This model has been further developed in dual-processual theory, where exclusionary or network strategy (Strathern's finance) and the corporate strategy (Strathern's home production) are conceived as two ends of a continuum, and as forces that can operate within the same political context (Feinman 1995).

Looking at the Iñupiat through the lens of dual-processual theory, we find that leaders used both types of strategies. On the network/finance end of the continuum, *umialgich* were engaged in regional networks of trade and exchange beyond their own family and local groups. Before contact, they traded with other Iñupiaq groups and with the Siberian Yupik and Chukchi, and later on with European commercial whalers and traders. As already mentioned, the *umialik* was among other things a good trader, he had a privileged access to trade, and part of his greater material wealth consisted of trade goods such as furs and beads. Furthermore, through the Messenger Feast described above, the *umialik* engaged in a network of exchange and alliance with leaders of other groups. While these strategies probably contributed to the higher status and power of the *umialik*, their importance was relative, since, according to Burch (2005, 62–63), inter-group trade could hardly be monopolized given its decentralized character, e.g., in the form of individual trading partnerships. On the other end of the continuum, *umialgich* heavily relied on the corporate/home production strategy, as their wealth consisted largely on food surpluses produced by his own followership, which he controlled and manipulated to extend his influence. The larger an *umialik*'s family, the wealthier and more powerful he could become (Burch 2006, 74). Thus, managing and (re)distributing the surpluses produced by his own family group, was probably the most decisive factor that determined the power and influence of the *umialik*.

A key feature of the exclusionary/network strategy is its greater emphasis on personal ties and networks, while in the corporate strategy there is a greater emphasis on the corporate group. The fact that Iñupiaq leaders incorporated both strategies, is somehow reflected in the forms of

group affiliation and faction building, and can be related to the Iñupiaq kinship system. As described in the second chapter, kinship had bilateral descent and no unilineal corporate groups, but a certain patrilineal tendency by putting emphasis on the male line to form patrifocal groups, most notably the hunting crew and the membership to the *qargi* (ceremonial house). Production units and political functions were therefore formed prioritizing patrilineal link, but maintaining the flexibility of bilateral, non-unilineal kinship, and incorporating social relations where kinship was not the primary factors.

This feature was not exclusive of the Iñupiat but shared among other 'Eskimo' societies, albeit to varying degrees. An emphasis on patrilineal links and and/or patrilocal residence has been observed among Canadian Inuit (Damas 1968; Balikci 1984), but generally in a less developed form as in the Western Arctic. More pronounced was this tendency among groups with patrilineal lineages, namely the Yupik of the Chukchi Peninsula in Eastern Siberia (Schweitzer 1990), of the Saint Lawrence Island (Hughes 1984b), and of Nunivak Island (Lantis 1984). These patrilineal lineages or clans corporately owned boats, shared hunting returns, and constituted the basis for recruiting hunting crews (Hughes 1984a; Schweitzer 1990; Hughes 1984c, 1984b). These groups are clearly nearer to the corporate end of the continuum in the model advanced by dual-processual theory, with a greater emphasis on the corporate group than on prominent individuals.

An interesting question arises here, namely why did these groups display a more pronounced patrilineal tendency and have a social structure more strongly organized around patrifocal/patrilocal groups, or even patrilineal lineages? One thing in common between these groups and that distinguishes from inland and other 'Eskimo' in Alaska and Canada, is an economy that strongly relies on hunting of large sea mammals like walrus and whales. Accordingly, social, political and ritual life revolve largely around these activities. Looking beyond the Arctic, we find striking similarities with the Lamalera whalers of Indonesia. The Lamalera are organized in patrilineal corporate groups, which own the boats for hunting, operate whaling crews with specialized roles within them (like those of the Iñupiat), and constitute the unit for distributing, if unequally, the yields of their whaling activities (Alvard 2003).

Hughes (1984b) argues that ownership of boats by single individuals and its associated unequal distribution of hunting returns found in more recent times in Saint Lawrence Island, is a an effect of modern socioeconomic changes and the advent of commodity value.

We may therefore speculate on the existence of some relationship between whaling as a type of subsistence activity with specific features and requirements, and the formation of

corporate groups that tend to be based on unilineal descent. Whaling demands a high degree of cooperation and coordination between several hunters with specialized skills and roles. Such degree of cooperation, coordination and specialization is certainly higher than hunting sea mammals with kayaks, and perhaps higher than other collective hunts of terrestrial large game, leading to more stable and structured hunting teams. The demands posed by specialization of roles and the need for enduring coordinated action may be a factor to stronger leadership and more structured hierarchies. Furthermore, whaling seems to be associated with more exclusive forms of resource appropriation and property relations, albeit not in the extent as for example among fishers of the Pacific Northwest Coast. Because men are in charge of whaling and sea mammal hunting, patrilineally focused groups contribute to maintain a core of closely related males over time for the purpose of cooperative hunting (Ellanna 1988b). Furthermore, in contrast to bilateral descent, unilineal descent enables the creation of clearly bounded groups for the purposes of collective action and the defense of property and people (Alvard 2003).

Thus, cooperative hunting by male teams with some degree of internal specialization using relatively large boats, may explain the emergence of stronger hierarchies and higher levels of inequality, as well as a tendency to towards patrilineal corporate groups, among marine mammal hunters. Variation among groups in relation to an emphasis on either individual leaders or corporate groups may be understood with the help of dual-processual theory and the network/corporate continuum. Further socioeconomic factors might be taken into consideration in this regard, in order to understand the conditions underlying different strategies and forms that bind leaders to followers.

4.3. Changing leadership and social inequality

In this section, I will examine how the historical and contemporary transformations in subsistence and settlement systems as well as in social organization discussed in the previous chapters have affected the traditional forms of leadership and social inequality described in the previous section. In doing so, I will further consider the institutional changes resulting from the colonial history and interactions of Native Alaskan with state bureaucracies and power.

Commercial whaling, with its large influx of trade goods to the region, was partly responsible together with declines in caribou of a large-scale migration from inland regions towards the coast, with population concentrating around already existing Iñupiaq villages as well as newly established shore stations (Burch 1975; Bockstoce 1978). The widespread access to trade goods and wage employment created new paths to wealth accumulation and power,

challenging traditional authority based on kinship and seniority, and enabling more men to become whaling captains. In Barrow, the number of whaling captains per capita doubled during the commercial whaling era between the 1850s and 1890s (Cassell 2000). Arguably, this increase implied that "the power base was much more broadly distributed" than before (Cassell 2000, 115), as more people were able to accumulate wealth and achieve leadership positions by-passing established leaders. In other words, wage labor and increased access to wealth, "gave access to umialik status to a much broader constituency than was possible in the past" (Cassell 2000, 121). In addition to this, increased participation of individuals in wage employment and non-kin organizations, such as commercial whaling crews and shore stations, led to more independence of younger Iñupiat from their kin (Burch 1975). This independence allowed juniors to question the authority of senior kin and elders.

At the same time, growing competition for recruiting workforce might have undermined Iñupiaq captains' control over labor. Furthermore, despite a privileged access to trade goods, the power and autonomy of Iñupiaq leaders was weakened in another way: where "they formerly controlled production, umialiit [plural of *umialik*] became middlemen" (Cassell 2000, 121). While Iñupiaq captains might have reinforced their privileged access trade by working for commercial whalers, the widespread availability of and access to trade goods probably undermined captains' control over trade.

When commercial whaling retreated from the region, sources for wage employment shifted from the whaling industry to fur trapping in the North Slope and reindeer herding in the Seward Peninsula. Fur trapping and reindeer herding both had the opposite effect of commercial whaling, dispersing the population across the landscape. This population dispersal "disrupted kin ties, winter ceremonials, and other cohesive forms of community life" (Chance 1966, 63), weakening the leadership of Iñupiaq whaling captains and leaders like the *umialik*. However, when fur trapping and reindeer herding declined, the population concentrated again in villages and settlements. Already by the end of the nineteenth century, missions, schools and stores had begun to create a higher dependence of the Iñupiat on village infrastructure. The resulting trend towards centralization and sedentarization of the population re-established the leadership and sphere of influence of the *umialik* (Chance 1966, 63–4).

One important issue to consider here is how changes in population have affected the political role of the *umialik*. Based on data from New Guinea, Roscoe (2020) argues that in "small, face-to-face societies the ability of individuals to construct power relations over others is critically mediated by the distribution of population on a landscape – its density, dispersal, and mobility" (Roscoe 2020, 21). Higher population densities exponentially reduce the time

needed to reach people in order to construct power relations. Therefore, higher population densities reduces the costs for (aspiring) leaders to interact with other people and leaders in order to create a followership. Following this argument, we may explain at least partly the fluctuation in the power and influence of the *umialik* described above, as a function of the concentrations and dispersals of the Iñupiaq population in response to the changes in their livelihoods.

From around the 1940s and throughout the twentieth and twenty-first centuries, the Iñupiat and their hunting practices became increasingly dependent on market economies. The adoption of new technologies including firearms, aluminum boats, and outboard motors created a strong dependence on cash and imported goods and energy. This created opportunities but also imposed new constraints on mobility and subsistence. Access to cash and imported technologies for subsistence has allowed younger men to elude senior and established captains' control over the means of production, by being able to purchase a boat and recruit their own crew. This process, initiated by commercial whaling and continued through market integration, has challenged the principle of seniority and the authority of seniors and elders. This transformed leadership not only within hunting crews, but also within families and in the community at large. As Chance noted already in the 1960s:

> older Eskimo pass on to young adults what was their traditional right to leadership positions. This pattern is particularly in evidence in organizations like the village councils and National Guard units, where the average age of the participants has decreased steadily in recent years (Chance 1966, 64).

Constraints imposed by cash on hunting and mobility has reduced the sphere of influence and power of crew captains beyond the context of the hunt. Today, captains are not expected and usually do not materially support their crew members and families during and beyond the hunting season, as the former *umialgich* did, according to the literature. Contemporary crew captains are no longer those 'big-men' who distributed food and dispensed gifts all year round to a wide followership.

There are at least two reasons for this shift. First, most of them cannot afford it. Captains may be able to cover the expenses of the hunting effort, but not to provide for their crew members with other resources such as money or store-bought goods. As described previously, some captains even rely on other crew members or relatives in order to finance hunting, and many of them are prevented from hunting once and again because of lack of money or lack of time due to wage employment.

Second, while hunting is still important for the survival, health, and well-being of many people, the overall demand for wild foods in the mixed economy has decreased. At the same time, the market economy has given people more independence from subsistence, albeit with considerable variability across households within a community. This is a crucial point, because it marks a departure from leadership and inequality based almost exclusively on the ability of some individuals control labor and resources in the hunting economy. Hunting crew captains have partly lost their control over the means of production, and they have now a much more limited sphere to deploy the strategies described in the previous section in order to create a group of followers and supporter under his patronage. A shrinking hunting economy therefore translates into a shrinking sphere of influence for hunting crew captains. The new paths for accumulating wealth and assuming leadership positions has become increasingly related to people's ability to earn cash, implying that other types of skills, knowledge, and networks are required, which are not related in any way to subsistence hunting. Leadership has thus became partly decoupled from hunting, and the economic base for power diversified and shifted.

The cash-wage economy and the shifts in subsistence systems not only transformed hunting crews, but it also reorganized work and the sexual division of labor. Imported goods and technology replaced and dispensed with much of the labor needed for locally produced ones. Arguably, this has affected women's traditional activities to a greater extent, while at the same time, women have become more involved than men in the wage economy (Magdanz, Utermohle, and Wolfe 2002). In the mixed economy, women often are often the main cash earners in the household and appear also to have much autonomy over their own cash income (Ellanna and Sherrod 1995). Furthermore, women also engage in hunting in new ways and play a significant role in providing cash to finance hunting, having thereby access to their own shares. It would be difficult to determine whether women's autonomy in the economic sphere has increased or decreased. Ellanna and Sherrod (1995) argue that women had always had a role of economic managers within the household by being in charge of processing, storing, and distributing food, and that they continue to have such roles in household economics. The authors have even observed that "the most powerful Iñupiaq women have tended to dominate the allocation of cash earned by other members of the domestic unit or extended family. They also have been influential in organizing the economic strategies of the domestic unit or extended family" (Ellanna and Sherrod 1995, 32).

So far, I have discussed how changes in livelihoods and technology have affected patterns of social inequality and leadership, in relation to age and seniority, gender, material wealth, kinship, and the strategies used by leaders. In doing so, I have focused on internal dynamics,

individuals' strategies, and social relations within production and social units such as the hunting crew, the household, and the family group. However, in order to fully understand the contemporary political structure and dynamics of Iñupiaq communities, we need to further look at the transformation of local institutions in relation to the colonial history and contemporary integration of the Iñupiat in the United States.

By the time of contact, the Iñupiat were organized into autonomous and territorially bounded regional groups, which have been referred to as tribes (Ray 1992; Oswalt 1967), societies (Burch 1975), or nations (Burch 2006, 1998). Each regional group consisted of one or more extended family groups (also referred to as compound or local families), and included a winter settlement and several summer campsites. Regional groups were engaged in both peaceful and violent interactions through trade and warfare between each other as well as with other cultural groups such as Athabascans, Siberian and Central Yupik, and Chukchi. Iñupiaq regional groups were strongly interrelated and interdependent, both materially and socially, in particular regarding coastal and inland groups (Sheehan 1995). Alliances between regional groups were established through marriages and trading partnerships, as well as through competitive feasting.

There was no community-wide authority or political office in a regional group. The *umialik* was a leader and often a family head, but his role was neither permanent nor hereditary. Rather, these leaders were more like the 'big-men' or 'aggrandizers' described among transegalitarian societies (Sahlins 1963; Hayden 1995); they were self-made leaders with a group of supporters, but could lose their status anytime if they were unable to rightly manage their accumulated wealth and maintain their followership. One group or settlement could have more than one family group and several *umialgich*, but there was no authority or council over them.

The only supra-household institution was the *qargi* (also referred to as *qazgi*), a ceremonial house and community center. It was at the same time a building and a social institution, indicated by the fact that people could improvise a *qargi* while being away from the village, for example by turning a skin-boat upside down and meeting there. The *qargi* served several purposes and had different functions that have been described by various authors (Burch 2006, 105, 110, 273, 308; Spencer 1959, 185; Ray 1992, 106-107), which I summarize next. The *qargi* was the main focus of interaction besides the dwelling, serving ceremonial purposes such as dances, festivals and feasts, as well as for exchange and trade between families. It was also a place for storytelling and socializing. The *qargi* has been often translated as 'the men's house', because it was a working and sleeping place for males, where members of a hunting crew worked on tools and prepared for the hunt. Women were allowed to enter only in certain

occasions such as ceremonials, and also to bring in food. In the *qargi*, elders and leaders met to discuss political affairs, resolve disputes and conflicts, as well as for monitoring behavior and dealing with issues of social control.

Each *qargi* was associated to an extended family group and lead by one *umialik*. While authors normally agree that whaling or hunting crews tended to constitute factions in the village, there are different accounts about *qargi* affiliation. Spencer (1959, 185) argues that affiliation to the *qargi* was defined through the links to an *umialik* and membership to one crew. In contrast, Bogojavlensky (1969, 175) argues that a *qargi* included members from several or all crews in the village. And Burch (2006, 110) argues that membership in the *qargi* was somehow diffuse and fluid because of marriage alliances, and consisted of people belonging to different family groups. An informant in Wales told me that people would go to the *qargi* that was nearest to their homes, but since the homes of a single extended family clustered in hamlets, members might have at least belonged to one single extended family. In any case, according to these accounts, *qargi* affiliation probably was also somewhat flexible, as it was membership to a crew, considering that the Iñupiaq kinship system allowed for such flexibility, as described previously.

During the second half of the nineteenth century, warfare among the Iñupiat declined and ceased altogether by the 1870s (Burch 2005). With the advent of the gold rush by the end of the nineteenth century, the number of settlers in the region began to rise dramatically, increasing thereby the interest of the United States to reach out the state apparatus (Ray 1992, 246–250). By the turn of the century, the U.S. Navy had already been patrolling the region, and missions, schools, and stores had begun to establish in every Native village, so that "the U.S. government asserted its authority over northwestern Alaska and its inhabitants" (Burch 2005, 236). For the Iñupiat, this meant the beginning of a process of colonization and loss of autonomy and sovereignty, and of far-reaching and oppressive interventions by missionaries, the schooling system, and the state.

In 1934, the U.S. Congress enacted the Indian Reorganization Act (IRA), under which federally recognized tribes were able to organize for self-government, in an effort to counteract the assimilation process of Native American cultures, albeit not without controversial and contradictory outcomes.[9] In 1936, Congress extended certain provisions of the Statute to the

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[9] The informative long title of the Statute reads as follows: "An Act to conserve and develop Indian lands and resources; to extend to Indians the right to form business and other organizations; to establish a credit system for Indians; to grant certain rights of home rule to Indians; to provide for vocational education for Indians; and for other purposes."

Territory of Alaska, through which Alaska Native tribes that became federally recognized could "organize to adopt constitutions and bylaws and to receive charters of incorporation and Federal loans".[10] As a result, tribal councils were created in almost every Native village across Alaska.[11] Together with tribal councils, each tribe could establish their own constitutions on the basis of drafts provided by the federal Bureau of Indian Affairs (BIA) and eventually include their own customary law therein. Today, the tribal council constitutes one of the three governing structures in the village of Wales, together with the village Native Corporation that owns land, and the City of Wales as a municipality of the State of Alaska.

At the time when the tribal council was established in Wales, the demise of the *qargi* began. During the first half of the twentieth century, the *qargi* in the coastal settlements of Northwest Alaska were abandoned or destroyed, partly due to the influence of missionaries who associated them with shamanic and pagan practices, which they intended to eradicate (Larson 1995). As Larson (1995) remarks, the disappearance of the buildings does not necessarily mean that the institution ceased to exist. Coinciding with Larson (1995), my data from interviews and conversations with elders in Wales indicate that the institution of the *qargi* continued in some form in the tribal council. Elders in Wales recounted that the tribal council was initially led by elders, respected hunters, and whaling captains. Furthermore, elders reported that wrongdoers and troublemakers were taken to the tribal council to be chastised and sanctioned, coinciding with Chance's (1966, 67–69) description of early village councils. Social control, as already mentioned, was one of the traditional functions of the *qargi*. The tribal council further resembled the *qargi* inasmuch as it served as a meeting place for the community. However, in the case of Wales as in the other larger settlements, there was one difference, instead of being several *qargiit* in the village led by different *umialiit*, now there was only one tribal council. Similarly, Larson (1995) reports that the institution of the *qargi*, or at least some of the activities associated with it, persisted in coastal settlements in either temporary structures like snow houses or skin tents, or in other buildings like the schoolhouses, the store, or the community hall. However, as the author agues, the *qargi* as an institution with its affiliations did disappeared in the end in Wales and Barrow, but continued to exist in the village of Point Hope.

The present tribal council in Wales has changed significantly in its structure and function. It has its offices at the community or 'multi-purpose' building, which includes a room for communal use such as meetings, feasts, celebrations and other events, as well as a few guest

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[10] Quote from the amendment, known as Alaska IRA. Source: https://www.bia.gov/as-ia/raca/regulations-development-andor-under-review/alaska-ira

[11] Tribal councils sometimes are called IRA councils, the acronym standing for Indian Reorganization Act.

rooms. Moreover, the tribal council is possibly the major employer in the village. Following the principles of state democratic institutions, the structure of the tribal council consist of a president and other council members, who are elected by the village in regular periods. In addition, it includes some employees (both 'white' and 'blue' collar) for specific tasks and functions. The tribal council is primarily funded by the federal government, and it runs one of the stores, administers the storage and sales of fuel in the village, and coordinates other activities and tasks such as waste disposal, clean-ups, and maintenance of communal facilities. The tribal council also deals with broader issues relevant for the community, e.g., environmental issues, and assists community members with various affairs, including seeking and applying for any kind of financial and housing assistance, subsidies, and funding. Hence, it is the main link between the village and external institutions, such as governmental agencies and indigenous organizations.

Some of the traditional functions of the *qargi* have not continued in the tribal council. For example, the tribal council has no function for social control. An interesting and perhaps unexplored issue would be to inquire into the forms and strategies for dealing with conflicts and for conflict resolution in the current sociopolitical context of Iñupiat and other Native Alaska villages. Moreover, to the best of my knowledge, the tribal council and the community building do not function as a place for ceremonial exchange and feasting between families, as these practices have probably been abandoned, even though there are certain events where people from other communities are invited. Much of the ceremonial and religious functions have been now transferred to the local Evangelical Lutheran church, though at the time of my fieldwork there were no church services were taking place.

During both of my visits to Wales, in 2015 and 2016, the overwhelming majority of the tribal council's members and employees were young and middle-aged women. This shall not be taken as purely circumstantial or coincidental, for elsewhere "more women than men have assumed roles as corporate and municipal or council business and administrative managers in Iñupiaq communities" in the past decades (Ellanna and Sherrod 1995, 32). In the view of the cited authors, this is because of the unsuitability of the jobs for hunters due to the constraints of time schedules, but much more because of a culturally defined economic role of women as economic managers that results in more women filling such positions. While this might be true, I argue that there is a difference between traditional women's roles and the new ones described above. Such roles are of a political nature, and involve a kind of leadership that was formerly restricted to men and in particular prominent hunters. Furthermore, contemporary leadership positions require different skills and knowledge as those needed to become an *umialik*, and as

we have seen previously, women are usually better qualified for these positions by having higher degrees of formal education and being more involved in wage employment. Therefore, not only the traditional role of women as economic managers, but also changes in the organization of labor and patterns of social inequality discussed previously, may account for the fact that women are now involved in this kind of roles. Another interesting observation is that one member of the tribal council in Wales was a young man who is not engaged in hunting, but he is determined to assume leadership in his community. While anecdotal, this points to the fact that leadership and political influence has been partly decoupled from the hunting economy.

In the transition from the institution of the *qargi* to the present institution of the tribal council we observe the shift in politics away from leadership based on age, gender, kinship, and hunting. This institutional transformation is paralleled to the loss of autonomy and sovereignty of Iñupiat societies through their incorporation into the state, when compared to pre-contact times. Furthermore, this shift is further correlates with a local economy that has become dependent to a significant extent on transfer payments and subsidies, much of which is channeled through the tribal council. According to estimates made during the 1980s, transfers from state or federal governments to coastal villages (including those to finance jobs in the local public administration), accounted to "nearly one-half of personal income and two thirds of the economic base of coastal western Alaska" (Huskey and Morehouse 1992, 133). Local political institutions are now linked to and dependent on broader bureaucratic structures. Such agencies, offices, and stakeholders are located hundreds and thousands of kilometers away. This subjection of the local-sociopolitical order to the state parallels the economic dependence on imported food, goods, and energy by industrial society. In a study about the social implications of the technological change with the adoption of the snowmobile by the Sami in northern Scandinavia, Pelto (1987) referred to this process as the de-localization of energy resources and means of production. This shifts from locally produced to imported and commercially distributed, Pelto argues, leads to a loss of autonomy of the social system. This loss of autonomy and the direct intervention of the state to transform local institutions has contributed significantly to shape the internal dynamics of leadership, politics, and inequality in the village.

It is worth noticing that, in spite of this, Alaska Natives enjoy a significantly higher level of autonomy and self-determination than many other indigenous peoples around the globe. The IRA tribal councils have provided an opportunity for self-governance and the Native tribes have been entitled with land and compensation payments through the Native corporations. While the effects and purported benefits of these developments for Native peoples have been subjected to

debate and remain controversial, they still represent a far better situation in comparison to other indigenous peoples. Furthermore, since the activism and political movements of the 1960s, Native Alaskans have increasingly organized themselves to claim rights and to negotiate with state bureaucracies, corporations, and other stakeholders.

Moreover, it is important to mention that traditional patterns of leadership and politics based on seniority and kinship, while transformed, have not vanish completely. Families continue to be the main factions in the village, between which animosities exist, and their members compete to occupy roles in the administration. The fact that the tribal council centralizes political functions that were formerly distributed among several *qargiit*, might lead to greater competition between families to occupy places in the governing institutions. I have heard complaints about 'nepotism' and about people in such positions who are said to favor their relatives only and not the community at large. Be them true or not, such statements point to the competition I mentioned. Elders and prominent hunters certainly have less power and influence than in the past, and women and non-hunters are now also assuming leading roles. However, we have seen in the previous chapter that elders are still respected and influential in the context of hunting crews. For instance, the pastor of the church is an elder, crew captain, and respected hunter. Elders often act as advisers for the tribal council and are consulted by the community for different affairs. Therefore, it may be fair to say that elders still act to some extent as informal leaders in the community.

5. Discussion and conclusion

5.1. On subsistence, mixed economies, and hunter-gatherers

Understanding the impacts of cash on subsistence and related social relations and institutions has been an issue of enduring interest and importance for researchers working in the American Arctic (Wheeler and Thornton 2005; Wolfe and Walker 1987; Wenzel 2017; Ready 2019; Langdon 1991; Aslaksen et al. 2009; J.A. Kruse 1991). This problem, of course, has relevance beyond hunting and gathering societies, and concerns the study of small-scale societies with subsistence economies around the world experiencing deep transformations as they integrate into the global political economy and interact with (industrialized) nation-states. The impact of cash on subsistence is manifold and complex, and can vary depending on many factors. One central issue is to assess such impact is to look at how people's involvement in subsistence might change over time and space with varying degrees of market integration.

However, cash is but one aspect of contemporary mixed economies. Below, I summarize the factors to consider when studying processes of culture change in subsistence-based mixed economies, based on the insights discussed in this thesis. Following Wenzel's (2013) thoughts about the relevance of Inuit subsistence research to hunter-gatherer research more generally, I formulate these insights in the form of a strategy to empirically approach the study of the impact of the expansion of industrial society, market economies, and nation-states on foragers (and others) with subsistence-based mixed economies.

First, it is important to determine whether and to what extent the means of subsistence production might have become monetized, for example through the adoption of imported technologies and motorized transportation, as it has been the case throughout the Arctic. In the Iñupiat case, the adoption of motorized boats and firearms not only changed their hunting practices and mobility patterns, but also rendered subsistence to be dependent on sources of money. When imported technologies replace those produced with local labor and resources, the means of production become monetized and dependent upon external inputs, such as fossil fuels and cash income. This, I content, is a decisive factor with important consequences and ramifications in the social structure.

Second, one has to examine how cash income is earned by individuals and households in a given community. Monetized means of subsistence production generates a need for cash, which creates a time-allocation problem as people need to engage in cash-earning occupations.

Therefore, at the community level and in the long-term, greater involvement in the cash economy should then imply an overall decrease of subsistence activities. Nevertheless, the extent and the ways in which cash might affect subsistence involvement can vary according to: (1) the amount of cash available, (2) the sources of cash income (e.g., employment, commercialization of subsistence products, transfer payments), and (3) the flexibility of employment schedules. Greater wealth in combination with sources of cash income that allow people to still invest time in subsistence can make for persistent involvement in at least certain activities by at least certain people within a community. While higher income can account for more spending in subsistence (gear, fuel, etc.), probably it will alter as well the choices and preferences for resources and activities to be pursued. These choices might be determined by different kinds of factors, e.g. cost-benefit differentials between resources, additional monetary income gained from certain resources (e.g. ivory tusks, salmon runs), prestige associated with certain resources or activities, cultural preferences, and considerations of health and well-being.

Third, an important issue to consider is variability in subsistence involvement and economic orientation between households and members of a community with a mixed economy. Such variability can take place because of different reasons, like for example due to unequal access to cash income and therefore to the means of subsistence production, or due to different choices and economic strategies pursued. Unequal involvement in subsistence can become a strategy for households and families to cope with the time-allocation problem, in combination with sharing networks and resource-pooling practices. Sharing is a well-known practice among foraging societies that can function to buffer risk due to fluctuations in subsistence returns. In the mixed economy, sharing appears to function also as an adaptation to cope with limited cash income and time-allocation problems. If sharing can compensate time budget differentials, it could be possible, at least hypothetically, to observe a more or less constant level of subsistence involvement over time at the level of the community, while differences might arise at the level of the household or individuals. Then, an interesting question is whether time-budget and cash-income differentials translate into unequal access to resources. This is something that researchers have begun to study more recently (Dombrowski et al. 2013; BurnSilver and Magdanz 2017; Ready and Power 2018).

Forth, in addition to the effects of technological change, money, and market integration, we need to consider the impacts of political and geographical factors. On the one hand, there is the role of state regulations of natural resources used by indigenous peoples. This can appear in different forms. In Alaska, we find a patchwork of complex regulatory regimes that regulate many of the resources used by Native communities. Such regulations might limit access to land

and resources, establish quotas and catch limits, and define the methos and technologies through which subsistence harvests shall be carried out and recognized as such. As studies have shown (Langdon 1991), regulations and resource management regimes can alter the effects of cash and market forces on subsistence, which can have significant effects on food (in)security.

On the other hand, there is the issue of the particular human geographies in which hunter-gatherers (and other small-scale societies) are embedded, in particular to issues of economic development. One central question here is the degree of remoteness, i.e. the geographic, economic, and political distance from centers of wealth and power, and the impacts of regional and economic development (Huskey and Morehouse 1992; Wolfe and Walker 1987). In Alaska, communities not connected to roads and with more limited settlement entry have tended to rely more on subsistence and to preserve a mixed economy, while those better connected to and accessible from urban centers have transitioned towards full integration into market economies (Wolfe and Walker 1987).

Historically, in North America, the proximity to trade routes and degree of involvement in the fur trade or commercial whaling in the High Arctic, determined the extent of culture change and integration of northern foragers into larger political economies. Today, extractive industries constitute perhaps the of the most important force in this respect. In other parts of the world, geographies of economic development might further include the establishment of conservation areas and the tourism industry. It must be noted that, which these kind of pressures for change originate from outside, they create pressures from within communities, as people's needs and goals shift and so their economic orientations. The creation of for-profit corporations in every Native village in Alaska is a perfect illustration of this fact (Langdon 1986b; Dombrowski 2007).

5.2. On social relations, leadership, and social inequality

The impacts of new technologies, the market economy, and the state on the Iñupiaq social structure, can be explained as (1) ramifications of technological change and the incorporation of cash and wage employment, and (2) as consequences of state interventions on local institutions. To put this in the theoretical framework proposed by Ferguson's (1995) revision of cultural materialism discussed in this introduction, I have sought explanations for changes in the social structure at several levels: through infrastructural changes (new technologies, monetized means of production, cash) that ramified into further changes in the structure (age and gender roles, hierarchies, household economics, patterns of leadership, etc.), but also as

structural changes originating from the interactions with the state and the larger political economy as well as through the diverging strategies of local actors. I have done this by discussing the organization of work and division of labor, sharing practices, and social inequalities in the form of hierarchies and leadership roles, with particular attention to age, gender, and material wealth as sources of power and influence. Figure 3 summarizes the interrelationships studied in this ethnographic case study.

As this case study has illustrated, a transformation of livelihoods through new technologies and market integration is expected to effect a certain reorganization of work and shifts in the division of labor. Kinship was the main principle to mobilize social labor in Iñupiaq society,
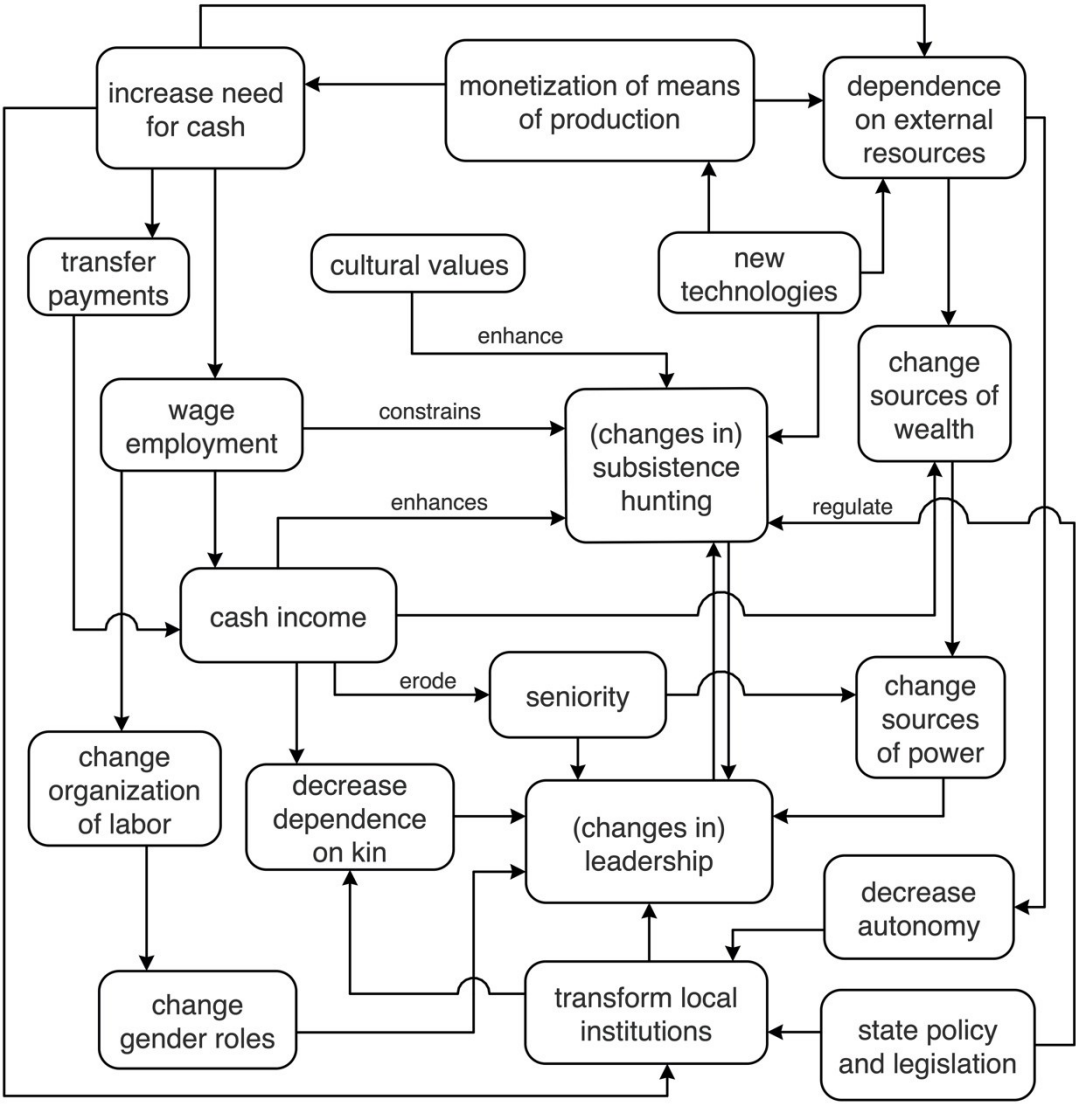

Figure 3. Diagram showing the chains of causal relations involved in shaping and transforming contemporary subsistence and leadership among the Iñupiat.

and it provided several mechanisms to expand one's kindred and turn strangers into relatives (Heinrich 1960, 1963; Schweitzer and Golovko 1997). Subsistence has been traditionally organized by extended family groups, with labor being recruited along kinship lines and divided between gender and age. At least in relation to subsistence hunting, this pattern continues in the mixed economy, albeit with some transformations.

Dependence on cash and involvement in the wage economy has introduced new occupations, which demand time as well as new kinds of skills and knowledge. Furthermore, changes in technologies and consumption patterns have reduced the demand for certain forms of labor or even rendered them obsolete, like for example processing and sewing skins. This has altered the sexual division of labor, and so we can observe for example that women participate in the traditionally male hunting activities, and men participate in traditionally female work such as processing food. Both men and women participate in the wage economy, albeit unequally. Women tend to engage more in wage employment, be higher qualified, and have higher incomes. Whether roles in parental care have changed along these developments has not been explored in this thesis, but certainly remains an interesting issue for further research.

As a result of these shifts in the division of labor and the differential participation in subsistence and wage employment between men and women, a shift in gender roles has taken place, which is certainly accompanied by an influence of U.S. American values. We observe therefore that women have now access to certain roles and leadership positions that used to belong exclusively to the male domain. Such roles include being head of households, hunters, harpooners or even captains in whaling and hunting crews, as well as village council members or even presidents (as in the case of Wales). As some observers have pointed out (Ellanna and Sherrod 1995), such roles are not alien to the more traditional roles of women in Iñupiaq society, namely as managers of household economics by being in charge of processing, storage, and exchange. However, women assuming specific roles in hunting as well as leadership positions in families and at the community level, is a relatively new phenomenon when comparing to the ethnohistoric literature. This, I argue, has to do with the socioeconomic transformations in the mixed economy discussed above.

I have further suggested that, by still participating in subsistence in their traditional roles, but also in new roles plus their better access to cash income, women may have gained greater autonomy in general. However, the issue of gender (in)equality and the question of the degree of autonomy can be an elusive one to determine. If we look at marriage forms as a way to assess the relative autonomy in a society (Kelly 2013), we do observe greater autonomy of women in

that coercive marriage practices of the past (see section 4.2.2.) no longer take place (which does not imply that cases of violence against women do not occur). This may have its socioeconomic causes, but cannot be separated from the history of missionary and state interventions as well as the central role of U.S. American values and ideology in the socialization of the Iñupiat. Following Leacock (1978) and looking at the degree of control over own labor and produce, women's already high autonomy in the past in this respect has become enhanced through their better positioning in the wage economy and the concomitant role of providers of cash for the household and for (mainly male) subsistence hunting activities. This might explain the greater access by women to positions of power and influence in their families and communities.

Another effect of technological change and market integration on the social structure described in this thesis is the transformation of age hierarchies and the role of seniority. This has occurred at various levels. At the level of the hunting group, the adoption of imported technologies and the monetization of the means of subsistence production has relaxed or even challenged age hierarchies, as elder hunters no longer have exclusive control of the means of production and younger hunters are able to buy a boat and provisions to form and support their own crew. At the level of the family and the community, elders do not seem to have the same leading roles and power as described in the ethnohistoric literature (Burch 2006; Ray 1992). This is for example reflected in the compositions of the tribal council and the Native Corporation in Wales. Elders, however, continue to be very much respected and influential in the community and continue to assume leadership.

In addition to gender and age, kinship has also experienced transformations, both in structure and function. Historically, the Iñupiat kinship system had been disrupted in various ways, through large-scale migration and population displacements, through the intervention of missionaries and the schooling system (including loss of language and kinship terminology), and through population decimations due to epidemics and disease. Despite disrupted genealogies, abandoned practices, and changes in the forms and contents of relations (for a thorough discussion on this matter see Burch 1975), extended family groups appear to persist as the main segments of communities, and kinship continues to be an important organizing principle for social life and economic practices. Studies based on quantitative data have demonstrated the primacy of kinship for subsistence and sharing networks (BurnSilver et al. 2016; Ready and Power 2018; Magdanz, Utermohle, and Wolfe 2002). My own data presented here (see section 3.3. and Figure 2) show that hunting of sea mammals in Wales continues to be organized along kinship lines. Kinship continues to be the major source for recruiting labor for subsistence production, or to put it in Wolf's (2010) terms, to mobilize social labor. In

northern mixed economies, kinship constitutes the matrix of social relations within which production and distribution takes place, with the household as the main economic unit (Usher, Duhaime, and Searles 2003).

However, I also agree with Burch (1975) in that the introduction of wage labor and non-kin institutions have reduced to some extent the overall role of kinship in Iñupiaq society. Such institutions have taken over functions formerly fulfilled by kinship relations and institutions. Even though kinship relations may play a role, wage employment and institutions such as the school, the tribal council, and the village corporation are not organized around kinship principles and are not tied to kinship groups, in contrast to former institutions like the ceremonial house (*qargi*), where affiliation largely followed kinship lines. Kinship has therefore a more limited role as a source of power and influence, as well as a decreased function for social control. The role of kinship in organizing other activities (economic and other) and exchange networks apart from subsistence, and as a resource for establishing social relations and exert power and influence, remains a less studied but no less interesting issue that deserves more attention.

The wage economy and the partial monetization of subsistence production has shifted the sources of wealth, power, and influence. By creating alternative livelihoods for individuals and households, the wage-cash economy has partially lifted kinship obligations and ties of reciprocity. Furthermore, these alternative livelihoods have created economic opportunities to challenge the established traditional hierarchies and inequalities. As the demand for sea mammal products for food and raw materials decreased, the economic importance of sea mammal hunting is reduced, and thus hunting is today less a source for power and influence than it used to be. Controlling technology and labor for sea mammal hunting is no more the main or only pathway to leadership.

Nevertheless, there is a strong relationship between wealth (higher income), degree of subsistence involvement, centrality in sharing networks, and influence in the community (Ready and Power 2018). Hunting of large sea mammals may have now become less a source for accumulating wealth than a mark of monetary wealth, as those with higher incomes can afford to have better gear and buy more fuel. Hunting continues to be a source of prestige, and as a form of cultural/symbolic capital, it can be converted into social or economic capital (Bourdieu 1986), allowing people to be more central in social networks and having more influence and power. Therefore, we can conclude that traditional forms of leadership and hierarchies have not been completely displaced but rather coexist with newer ones in a dynamic interplay.

5.3. On theory and methodology

Finally, I would like to discuss some of the methodological and theoretical issues in approaching the study of the mixed economies of hunter-gatherers and other small-scale societies in the modern world, as well as processes of culture change. Since Steward's (1955) theoretical and methodological approach, cultural ecology and ecological anthropology have been the approaches *par excellence* in the study of cultural adaptations. However, in the past decades, we have seen the rise of political ecology as well as human behavioral ecology. These approaches have brought up criticisms and addressed shortcomings of the previous ones. Each of them has its strengths and weaknesses, and while to some extent they might remain incommensurable paradigms, it is worth working towards a synthesis. As mentioned in the introduction, such an integrative framework is still lacking in environmental anthropology, and it remains to be one of its great challenges. In a similar way, it turned out that the two major narratives about arctic mixed economies, the acculturation/modernization and the adaptationist (Wenzel 2001), may not be mutually exclusive but rather each telling only one side of the story (Ready 2019). Therefore, we need more comprehensive approaches that can account for both processes of change and explain variability, both between and within communities.

In comparing cultural ecology and human behavioral ecology, we find that they have different strengths that correspond to different interests. With a strong behavioral orientation rooted in evolutionary biology and micro-economics, human behavioral ecology has been very successful at explaining individual strategies based on predictive models with what is usually referred to as the 'piecemeal approach', which breaks down complex phenomena to a limited set of quantitatively measurable variables. In contrast, cultural ecology is more focused on systems dynamics and cultural institutions, and may therefore be better suited to understand how cultural norms and social structures interact with each other and with other elements of a given sociocultural system.

Of course, both approaches have also their own weaknesses. Cultural ecology, for example, runs the risk of establishing a priori relationships between rather monolithic categories. It can be further criticized for having a rather functionalist focus on institutions, which obscures the processes of individual decision-making pursue different strategies which lead to change. Human behavioral ecology has been criticized for not giving enough attention to the role of cultural norms and social institutions in directing human action, by placing too much an emphasis on the microeconomics of individual decision-making and ecology. Structural

conditions, cultural norms and values are a given that constrain human action, but are not explained in relation to each other.

At the heart of this debate is the difference between methodological individualism and holism, between structure and agency. While the former takes the individual as its main unit of analysis for explaining group dynamics and change, the latter takes a top down approach by prioritizing the effect of social structures, norms, and institutions on human behavior, taking culture traits and sociocultural systems as the main units of analysis. One approach looks at the micro-level of individual behavior and strategies, whereas the other looks at the macro-level of group dynamics and structures. The opposition between the primacy of either of individual agency or social structure in explaining social phenomena has been a long-standing debate in social theory.

While it is debatable to what extent these two approaches might be compatible, I believe that working towards a synthesis is worth the effort, given that each approach is better suited to analyze different levels and scales of human behavior and society, both having their strengths and caveats. Ready and Power (2018) have explicitly addressed this issue in a study on the multiple functions of food sharing in an Inuit settlement in Canada. The authors applied social network analysis to their data on sharing practices, socioeconomic attributes, and kinship, in order to explore the relationships between individual economic strategies and the operation of broader social and political systems. In this way, Ready and Power (2018) intend to bridge the gap between individual decisions and social structure, between methodological individualism and holism, between human behavioral ecology and sociocultural anthropology. Therefore, social network analysis, which is been increasingly applied in various fields, may provide a promising methodological avenue to incorporate system-oriented with actor-based approaches, holism with individualism, emergent structures with individual decision-making and behavior. In the arctic context, social network analysis will need to look beyond the sharing of wild foods, and incorporate other types of resources, transactions, and ties of cooperation in their networks. This will allow to better asses the roles of subsistence, sharing and monetized resources in creating, maintaining, or dampening (emergent) social inequalities.

In my own case study, I have examined how individual choices and decision-making interact with structural factors at different levels. In chapter two, I discussed how new challenges posed by the dependence on limited sources of cash income and the high costs of fuel create constraints on peoples choices and decisions to allocate time, work, and resources. Such constraints depend not only on local conditions, but also on the larger political economy and human geography, such as the role of transfer payments, the remoteness of communities,

and external pressure to exploit local resources. At the same time, individuals and households follow new strategies and forms of cooperation in order to adapt to these problems. My own observation and modest data support recent claims that these processes effect some degrees of internal differentiation, heterogeneity, and social inequality (Dombrowski 2007; Ready and Power 2018; BurnSilver and Magdanz 2017; Dombrowski et al. 2013).

Moreover, in chapter four, I examined how traditional forms of leadership among the Iñupiat had been determined by ecological factors as much as by the particular strategies utilized by individuals to accumulate wealth, and to acquire and maintain power and influence. Furthermore, I have argued that both changes in technology and livelihoods as well as institutional change, have shifted the bases and structural conditions in which individuals may access to power, transforming not only the ways in which individuals strategize but also which classes of individuals might be able to become leaders. Dual-processual theory provides an interesting approach in order to reconcile both individual strategies and structural constraints to understand variation and change in leadership. Another useful concept in this respect, is Bourdieu's (1986) convertibility of economic, social, and cultural capital. People not only optimize by lowering the economic-material costs and increasing benefits, they also seek prestige and well-being, and take decisions in culturally prescribed ways. For these purposes, they resort to the different resources at hand, which might be economic, social, or cultural/symbolic in nature. The convertibility of different forms of capital is a useful tool to look at how a certain form of social inequality – economic, social, political – might translate into another.

One of the challenges in combining holistic and individualistic approaches is to determine where to look for causality, since these approaches tend to explain either institutions through individual behavior or vice versa. I do not intend to resolve this problem, but to point to some issues to consider in this respect. First, we may need less rigid theoretical models and research strategies that allow to incorporate different types and levels of causality. One example is the proposal by Vayda and Walters (1999, 170) of an event-centered approach that is more pragmatic than programmatic, in which "research be guided more by open questions about why events occur than by restrictive questions about how they are affected by factors privileged in advance by the investigator". What the authors are referring to in that paper, is the assumption by political ecologists that political economy and politics of natural resources always determine environmental events and human-environment interactions. However, the point applies as well to other rather rigid models of causal relations such as cultural materialism, which virtually always seeks to infrastructural variables (production and reproduction) to explain sociocultural

forms and change. Ferguson's (1995) revision of Harris's (1979, 1994) model points in that direction, giving more causal autonomy and latitude to each level of the sociocultural system, allowing to seek causes of certain phenomena in the structure or superstructure without the need to recur to the infrastructure (or at least acknowledging that there is a long chain of causal relations until we might find an infrastructural determinant).

A more event-centered approach guided by open questions can have the advantage of allowing more induction in the process of theory making. Nevertheless, as scientists, we still need theory to guide our research and hypothesis, even if that is a continuous work in progress. It should be also noted, that Vayda and Walters, in the example above, are primarily interested in studying and explaining particular environmental changes and problems, such as deforestation, whereas the interest in this thesis has been rather to understand culture change.

Theory can be at least of two different kinds, general theory and theories of limited sets, the latter also referred to as middle-range theory (Bettinger 1987). General theory, like cultural ecology or human behavioral ecology, is more general and abstract, and more difficult to test directly with empirical material. Theories of limited sets are derived from general theory and are made to explain certain types of phenomena and consider certain types of variables, and to "reconcile general principles to particular cases by showing how such cases result from the general principle in the presence of special conditions" (Bettinger 1987, 124).

I argue that in the quest of integrating different approaches and theories, holistic and individualistic, micro and macro level, it is necessary to identify whether we are dealing with theory of general or limited sets, and whether we are interested in ultimate or proximate causes. Theories such as dual-processual theory can be integrated as theories of limited sets (or middle-range theories) into more general theoretical frameworks, such as models of sociocultural systems, in order to be articulated with other theories of limited sets as well as with more general principles. In that process, "[t]heories of limited sets can serve as either interim steps in the construction of general theories or means of articulating extant general theory" (Bettinger 1987, 124).

5.4. Concluding remarks

Subsistence has come to be one of the main concepts around which much research on indigenous peoples of the North American Arctic has been carried out. It has also been an important matter for state regulation, as well as a central theme in the political struggles and cultural identity of northern Native communities. Emic understandings of the concept vary

across different stakeholders with diverging interests and worldviews. Governments and legislation have often defined subsistence in somewhat narrow economic terms, namely as a specific form of harvest and use of resources. Indigenous peoples themselves have criticized this view, pointing to the fact that for them subsistence is a way of life, encompassing other dimensions of social and cultural life, as well as non-economic motivations regarding health and well-being. Researchers in the Arctic have increasingly moved towards incorporating the social and cultural dimensions of subsistence in their studies. Thus, as several authors have pointed out, the concept of subsistence has been not only politically and legally loaded, but also differently applied (conceptually and theoretically), and its meaning has often been contested (Wheeler and Thornton 2005; T.F. Thornton 2001; Hovelsrud-Broda 1997). Thus, subsistence as an etic concept in anthropology and the social sciences can also vary in focus and meaning, depending on the specific theoretical frameworks and assumptions underlying the concept (Hovelsrud-Broda 1997; Gartler 2011).

Therefore, I have attempted to clarify this concept by looking at some definitions and perspectives on subsistence in anthropology in the second chapter of this thesis. I have argued that subsistence has been also used ambiguously in anthropological research, where two main usages can be identified: (1) as the productive techniques and processes through which people obtain and transform resources to sustain life, and (2) as a type of economic activity or economy primarily oriented towards use value rather than exchange value, i.e. with production primarily for own use rather than for market exchange. It is important to recognize that subsistence activities, like any other social action, does encompass at the same time material, economic, social, political, and ideological dimensions. Subsistence hunting, fishing, and gathering are embedded in specific sets of social relations and institutions, and they are tied to specific cultural practices, ideas, rituals, and learned behaviors. This recognition, as it has been argued here, is one of the main tenets of cultural ecology and other approaches in environmental anthropology. The main goal of this thesis has been to understand how these interrelationships between subsistence and social organization have been transformed through historical and contemporary processes of culture change.

Over the decades, researchers in Alaska and Canada have been discussing the question if and why subsistence might persist as indigenous peoples integrate into larger economies and nation states. Researchers have explained the persistence of subsistence in contemporary mixed economies in different ways. In material and economic terms, subsistence continues to contribute significantly to the diets of rural indigenous communities, constituting a rational economic strategy (Wolfe and Walker 1987; Wolfe 1983). However, sometimes the

opportunity costs for pursuing subsistence are higher than other economic strategies available in rural communities (Ready 2019; Langdon 1991). Moreover, individual choices for pursuing subsistence activities are also grounded in non-economic motivations and decisions related to health, leisure, and well-being (J.A. Kruse 1991). People also involve in subsistence in order to foster culturally embedded social relationships and networks (BurnSilver et al. 2016), to gain social prestige and political influence (Ready and Power 2018), as well as to nourish cultural identity (Dombrowski 2007).

Subsistence in contemporary northern mixed economies has therefore economic, social, political, cultural, and psychological functions. In the face of economic, social, and cultural change, subsistence as a way of life has become a cornerstone for defining and maintain Iñupiat identity and for claiming rights and access to resources, both within communities as well as in relation to the state and international contexts. The Iñupiat continue to embrace subsistence not only to enhance food security, but also to preserve their culture, and foster the well-being of their communities. Furthermore, subsistence, grounded in tradition and adapting to the modern world, continues to be central in the struggles for their rights to land and resources, and for greater autonomy and self-determination.

In the introduction to this thesis, I referred to two different narratives about northern mixed economies, in which they are seen either as persistent adaptations or as transitional stadiums towards full market integration (BurnSilver et al. 2016). These narratives are rooted in two perspectives on culture change, the adaptationist and the acculturation paradigms (Wenzel 2001). Related to this, there has been a debate in Alaska about whether the cash-market and the subsistence sectors in communities with mixed economies are either mutually supportive, thus rendering mixed economies persistent and adaptive, or conflicting and opposing forces, where an eventual displacement of subsistence and acculturation might take place (Wheeler and Thornton 2005). I agree with recent claims that these opposing narratives and paradigms do not fully represent the realities of mixed economies and are insufficient to understand how they have evolved and might develop in the future, given that both processes are at stake (Ready 2019).

Furthermore, acculturation processes as well as adaptation to socioeconomic change vary in form, intensity, and pace across communities and between households and individuals. Households might pursue different orientations and strategies, as they make use of the available resources and options available in an economy that has diversified but still poses many challenges and limitations. Therefore, it is important to recognize that "different segments of the population of Arctic settlements experience very different socioeconomic environments,

and are consequently differentially experiencing processes of culture change" (Ready 2019, 644). In this sense, recognizing, understanding, and explaining variability both between and within communities is essential to the study of mixed economies. Researchers have at first mainly focused on the characteristics of mixed economies in general and the similarities of such communities, which is an important step forward in this research. More recently, researchers have turned their attention to variability and heterogeneity within and among mixed economies (BurnSilver et al. 2016). We can observe some parallels to the development of modern hunter-gatherer studies, moving from a generalized model of foragers towards explaining variability and its underlying factors (Kelly 2013).

Hunter-gatherers, and other small-scale societies with subsistence economies, can be differently impacted by their integration into market economies and nation-states. In order to understand the various pathways through which hunter-gatherers (and others) move towards mixed-economies, as well as to determine whether mixed-economies might persist or not, we need to take several groups of factors into account. As Wenzel (2013, 188) notes, while it is important to study the economics of the integration of monetarized and traditional resources, it is necessary to look at the web and dynamics of social relations in order to understand how this integration is regulated and articulated. The interaction of ecological and sociological variables, structural causation and individual agency, and between local institutions and the social environment (interaction with other societies, states, and political economies) will generate variable outcomes in the processes of culture change.

Questions about the fate of subsistence in northern mixed economies must therefore consider the diversity of factors that might be at stake and the variability and heterogeneity between and within communities. This, however, should not prevent us to formulate generalizations or search for regularities. Critics of the acculturation narrative in northern mixed economies often cite a paper by Steward and Murphy (1956), arguing that the prediction that subsistence economies would transition towards a full integration into market economies, has not realized in the Arctic. However, what commentators often fail to recognize is the value of the approach and objectives of the authors, who intend to find regularities in certain processes of culture change by looking at the effects of similar forces acting on similar levels of sociocultural integration. In fact, the paper studies the impact of trade on the subsistence and social organization of particular small-scale societies, whereas in contemporary mixed economies we are dealing with rather different contexts and factors. I content that, while the hypothesis has been refuted in the case of arctic mixed economies, the approach may still be of value. Therefore, while refining and correcting hypothesis, and incorporating current

developments in theory and methodology, research should continue the lines of such a project (see also Wolf 2010[1982]), namely the search for (recurrent) causal relations that explain culture change and variability among subsistence-based mixed economies.

In this sense, I studied in this thesis some processes of change that are common to the North American Arctic, but may vary in their forms, intensity, combinations, and outcomes across communities. In doing so, I have ordered, discussed, and illustrated various factors associated primarily with technological change, market integration, and the state, and how they affect subsistence and social organization, as a modest contribution towards elaborating some kind of research strategy for the study of subsistence-based mixed economies. This is summarized in the diagram in Figure 3. In relation to subsistence, I discussed the far-reaching effects of the monetization of the means of (subsistence) production, and the complex effects of cash income on subsistence, as well as the role of the particular political economies and human geographies that may augment or dampen those effects. With respect to social organization, I have focused my analysis on the organization of labor, leadership, and patterns of social inequality, and how these have been transformed both through changes in subsistence and through the action of the state in transforming local institutions. In the contemporary mixed economy we find that a delocalization of the livelihoods and means of production is paralleled by a delocalization of power (Pelto 1987).

Social inequality, defined as the organizing principle of hierarchical structure (Price and Feinman 2010b), has provided a useful framework to study the interplay of various factors in a holistic manner. As is the case with subsistence, social inequality has as well economic, social, political, and ideological dimensions, as it implies varying forms of unequal distribution of resources, information, status, decision making, and power. In traditional Iñupiaq society, hierarchical structure was organized around gender, seniority, skill and knowledge, and, most importantly, through the accumulation of wealth in the form of food surpluses, hunting gear, and trade goods. In the mixed economy, changes in livelihoods, in particular through cash income and reduced subsistence hunting, have eroded seniority and decreased dependence on kinship, reducing the sphere of influence of traditional leaders and changing the pathways to power and leadership. At the same time, the progressive incorporation into the state has transformed the structure and function of local institutions. These processes have transformed the material base, the required skills, the dynamics, and the institutional context of leadership.

As is the case of societies with an egalitarian ethos, prestige competition, rather than dominance, has been the main feature of leadership and hierarchy among the Iñupiat, and one may argue that continues to be so. The prestige and status of a traditional leader, an *umialiq*,

resided in his accumulated wealth, only because he would use it to give away to his followers. Today, prestige is one important factor in explaining the continuation of subsistence, in particular whaling and hunting, in the face of socioeconomic change. Moreover, prestige may be a central issue to understand contemporary processes of internal differentiation and forms of social inequality in communities with mixed economies. As research has demonstrated, influential individuals with higher status in their communities tend to have higher cash incomes as well as to produce and share more subsistence foods. Thus, prestige is associated with success both in the cash economy and in subsistence hunting. Having more money often leads people to invest more in hunting, which allows to position oneself as a great hunter and provider, and thereby accumulate prestige. This may suggest that, while the sources for accumulation of wealth and the pathways to power have partially shifted, the sources of prestige have to some extent remained unchanged.

Anthropology and archaeology have come a long way in understanding the foundations, evolution, and dynamics of social inequality in its multidimensional and complex nature. Recent research on mixed economies in the Arctic has increasingly turned attention to issues of inequality, heterogeneity, and internal differentiation (Dombrowski 2007; Ready and Power 2018; BurnSilver and Magdanz 2017; Dombrowski et al. 2013). As I have attempted to illustrate in this thesis, the field of social inequality, while mostly applied to other contexts (e.g the deep human past), offers interesting theoretical insights with applicability to hunter-gatherers in the modern world. Conversely, research on mixed economies can provide case studies to test those theories as well as to inform and complement theory through the particulars of contemporary culture change. Furthermore, the field of social inequality can provide a framework in which different approaches such as political ecology and human behavioral ecology meet to understand the dynamics of power relations and status differentiation in a more comprehensive way, i.e. by looking at systemic causality as well as individual decision-making and strategizing. Approaches such as practice theory or dual-processual theory might function as hinges to articulate them.

Integrating systems-oriented with actor-based approaches is certainly a challenge, and might not always be possible or make sense, but it is worth the effort as it provides a promising avenue towards a more comprehensive understanding of how mixed economies are structured, how they function, and how they change. Research on arctic mixed economies provides a fertile field where theory and methods can be further developed in order to refine our understandings on how hunter-gatherers change and adapt to the modern world, as well as to contribute in working towards a new synthesis and integrative frameworks in environmental anthropology.

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7. Appendix A: Abstract (English)

The expansion of industrialized nation-states and global capitalism has been transforming the lives of northern hunter-gatherers already for over a century. Indigenous communities have transitioned towards mixed economies that combine traditional subsistence hunting, fishing and gathering with imported technologies and cash economies. The impacts of these transformations on the livelihoods and social fabrics of native communities is manifold. A growing body of research has developed on this matter with different narratives and perspectives on the integration of subsistence and market economies the question whether mixed economies are persistent adaptations or transitional stadiums.

Taking a historical perspective, this thesis presents an ethnographic case study on the effects of technological change, market integration, and the state in the transformations of subsistence, leadership and social inequality among the Iñupiat of Alaska. Whaling and hunting of large sea mammas have shaped much of the social life and institutions of many Iñupiaq coastal settlements. Subsistence is associated with specific sets of social relations and patterns of social inequality, based on seniority, gender and the accumulation of wealth by a 'big-man' type of leader, the umialiq, who led a family, a hunting group and a ceremonial house (the qazgi).

The adoption of new technologies have monetized the means of subsistence production, contributing to the general increase in the need for cash and dependence on external inputs from industrial society. This has affected mobility and subsistence patterns, increased involvement in wage employment, and shifted the organization of labor and gender roles. Cash income, monetized means of production, and alternative livelihoods to subsistence hunting, have eroded hierarchies based on seniority, decreased dependence on kin, and shifted the sources of wealth, which no longer depend exclusively on the control of local resources and labor. Consequently, the sources of and power and influence have shifted and leadership patterns changed, in which now women, younger men and non-hunters might assume leading roles formerly taken by elder, male hunters. At the same time, the state has transformed local institutions through policies and legislation. This, together with decreased autonomy and a greater dependence on the state for transfer payments, housing, education, health, etc., have contributed in the transformation of local leadership.

Building on theoretical insights form cultural ecology, political ecology, and human behavioral ecology, as well as from hunter-gatherer research and studies of social inequality, this thesis intends to contribute to the ongoing research on mixed economies on the one hand, as well as to conversations about generating integrative frameworks and new synthesis in environmental anthropology. In particular, it will be argued that systems-oriented and actor-based approaches should be further integrated in frameworks that can articulate general theory with more limited or middle-rage theories.

8. Appendix B: Abstract (German)

Die Ausbreitung der Industriestaaten und des globalen Kapitalismus verändert das Leben der Jäger und Sammler im Norden bereits seit über einem Jahrhundert. Indigene Gemeinschaften sind zu gemischten Ökonomien übergegangen, die traditionelles Jagen, Fischen und Sammeln mit importierten Technologien und Geldwirtschaft kombinieren. Die Auswirkungen dieses Wandels auf die Lebensgrundlagen und das soziale Gefüge der indigenen Gemeinschaften sind vielfältig. Zu diesem Thema hat sich eine wachsende Zahl von Forschungsarbeiten entwickelt, die sich mit der Integration von Subsistenz- und Marktwirtschaft befassen und die Frage aufwerfen, ob es sich bei gemischten Ökonomien um dauerhafte Anpassungen oder um Übergangsstadien handelt.

In dieser Arbeit wird mit einer historischen Perspektive eine ethnographische Fallstudie über die Auswirkungen von technologischem Wandel, Marktintegration und der Staat auf die Veränderungen der Subsistenzwirtschaft, der Führungsrolle und der sozialen Ungleichheit bei den Iñupiat in Alaska vorgestellt. Der Walfang und die Jagd auf große Meeressäugetiere haben das soziale Leben und die Institutionen vieler Iñupiaq-Küstensiedlungen stark geprägt. Die Subsistenzwirtschaft ist mit bestimmten sozialen Beziehungen und Mustern sozialer Ungleichheit verbunden, die auf Seniorität, Geschlecht und der Anhäufung von Reichtum durch einen Anführer des ‚big-man'-Typ (den umialiq), wer eine Familie, eine Jagdgruppe und ein zeremonielles Haus (das qazgi) anführt.

Die Einführung neuer Technologien hat die Produktionsmittel für Subsistenz monetarisiert und somit dazu beigetragen, dass der allgemeine Bedarf an Geld und die Abhängigkeit von externen Inputs der Industriegesellschaft gestiegen sind. Dies hat die Mobilitäts- und Subsistenzmuster verändert, die Beteiligung an Lohnarbeit erhöht, und die Arbeitsteilung sowie Geschlechterrollen verändert. Geldeinkünfte, monetarisierte Produktionsmittel und die Entstehung eines Lebensgrundlagen alternativ zur Subsistenzjagd haben die auf Seniorität beruhende Hierarchien untergraben, die Abhängigkeit von der eigenen Verwandtschaft verringert, und die Quellen von Reichtum verschoben, welche nicht mehr ausschließlich von der Kontrolle lokaler Ressourcen und Arbeit abhängen. Infolgedessen haben sich die Quellen von Macht und Einfluss verschoben und die Führungsmuster verändert, so dass nun Frauen, jüngere Männer und Nichtjäger Führungsrollen übernehmen können, die früher von älteren, männlichen Jägern eingenommen wurden. Gleichzeitig hat der Staat die lokalen Institutionen durch Politiken und Gesetzgebung verändert. Dies hat zusammen mit einer geringeren Autonomie und einer größeren Abhängigkeit vom Staat in Bezug auf Transferzahlungen, Wohnbau, Bildung, Gesundheit usw., zum Wandel der lokalen Führungsformen beigetragen.

Aufbauend auf theoretischen Erkenntnissen aus der Kulturökologie, der politischen Ökologie und der Verhaltensökologie des Menschen sowie aus der Jäger-Sammler-Forschung und Studien zur sozialen Ungleichheit will diese Arbeit einerseits einen Beitrag zur laufenden Forschung über gemischte Ökonomien leisten, andererseits aber auch zu Gesprächen über die Schaffung integrativer Rahmen und neuer Synthesen in der Umweltanthropologie. Insbesondere wird argumentiert, dass systemorientierte und akteursbasierte Ansätze weiter integriert werden sollten, so dass allgemeine Theorie mit begrenzteren oder ‚middle-range' Theorien verknüpft werden können.