presumably was intended to inform others of their success. Unfortunately, such interesting details will probably always remain beyond our reach.

Education

Education is the process whereby one learns from others and/or through experience. This general subject was discussed briefly in several earlier chapters. In Chapter 2, it was considered in the context of role differentiation on the basis of cognition. In Chapter 3, it was mentioned as being an important element in parent-child, nepotic, and grandparent-grandchild relationships. And, in Chapter 4, it was discussed under the heading of "services."

In the present chapter, the focus is on education as an element in how individuals adjusted to their life situation. More specifically, it concerns how people learned what they needed to know in order to get along in the social and material worlds of Northwest Alaska.

It is useful to divide the presentation into two parts. The first deals with socialization, the second with what I call "adult education."

Socialization

Socialization is the process whereby individuals learn to operate in a social system in which they are becoming or have become new members (Levy 1966:341). It includes the transfer of information about what a person needs to know, how a person should behave, and what a person should believe. The term "socialization" is usually employed only with reference to how infants—the most general category of "new members"—are raised to be adults in a given society; where relevant, I will refer to this as "primary socialization." However, as defined above, it also pertains to the process that a person must go through when, for example, marrying into another family, joining an organization such as a whaling crew for the first time, and emigrating to a new country. This is "secondary socialization." Unfortunately, information on secondary socialization is all but nonexistent for the study period.

Primary socialization began shortly after birth. An infant needed to learn how to become a human being, an Iñupiaq, and a functioning member of a particular family and nation. The process continued at least until a person was in his/her mid-teens.[6] Among the Kiŋikmiut, and probably among the Tikiġaġmiut, where men were usually in their twenties before they knew how to hunt safely on the moving sea ice, the process lasted a few years longer. In any case, the process was seamless. There were no day-care centers, schools, grades, or other thresholds, and there were no age classes requiring special training or initiation rites prior to entry.

Most of what a child learned about being an Iñupiaq was acquired within the family context.[7] Here it is important to recall that the typical Iñupiaq family was larger and more complex than what most of us today think of as being a family. Indeed, the great majority of settlements were inhabited by the members of a single (compound) family. In most cases there were at least as many adults as children, and often more, so adult role models and teachers usually equaled or exceeded children in number.

Infants were almost continually held by someone when they were awake, and often when they were not. They were talked to, smiled at, sung to, and generally made the center of attention by both men and women. Toddlers were clothed and permitted to walk around or play, inside the house or outside, depending on the weather, but always under the supervision of an older sibling, cousin, or adult relative. Physical punishment, such as spanking, was rarely inflicted on children of any age, although it was not unknown.

A youngster was taught the names of his/her relatives and the ways in which he/she was related to each one at an early age. As part of the learning process, children were quizzed on these subjects from time to time as they grew older. Subsequently, through observation and instruction, trial and error, children learned the behavior appropriate to each of the relationships, and to each of the *types* of relationship to which they belonged.

Iñupiaq children learned a great deal by watching and listening. It helped that most adult activities and conversation occurred in their presence, virtually from birth on. It also helped that every adult had to perform the same basic duties as every other adult of the same general age and the same sex, so a youngster could observe almost anyone and learn something about what he/she needed to know. The only exceptions to this generalization were some of the knowledge specialist roles, about which more later.

The Iñupiat also set great store on learning by doing.[8] For example, a little girl who had spent her first few years of life watching her mother, aunts, and grandmothers sewing, setting snares, feeding the dogs, and butchering and storing meat and other foodstuffs, day in and day out, eventually wanted to try to do some of those things herself. When she expressed an interest in doing so she was given the necessary tools or other equipment, often made in miniature just for her, and she set to work. Older girls and women offered advice and instruction from time to time, but otherwise let the youngster forge ahead on her own. Similarly, a young girl learned the care of babies, first with dolls or puppies, then with younger siblings or cousins.

Boys learned to be men by following procedures analogous to those girls followed to become women, except that their role models (fathers, grandfathers, uncles) spent much of their time in hunting, outside the settlement. Thus, adult males could not be observed by boys too young to accompany them. However, if a boy expressed an interest, a father or other older male relative made him a small bow and a set of miniature arrows and showed him how to use them. Boys practiced doing what they had been told by stalking and attempting to kill shorebirds (on the coast) or sparrows or other small birds (inland) during the spring and summer, and pretended to do the same thing with targets in winter. The results provided instant feedback on their success or failure in mastering their lessons. When they grew a little older they were given a small kayak, which they learned to paddle under the watchful eyes of a parent. As they approached puberty, boys were provided with more adult-size weapons, and began to accompany their fathers or uncles on big-game hunts. As Thomas Johnston (1976a:249--50) pointed out, the Iñupiaq method of learning by doing included a lot of "positive reinforcement: a feast for the boy's first kill, but nothing said about the one that got way."

Learning by doing involved much practice, and was by no means restricted to material pursuits such as sewing or hunting. I have read only one early account of such things from the study region (see below), but John Murdoch (1892) included one in his volume on Barrow in the early 1880s:

> One night I saw a party of children having quite an elaborate performance near our station. The snow at the time was drifted up close under the eaves of the house. On the edge of the roof sat three little boys, each beating vigorously on an empty tomato can [in lieu of a drum] and singing at the top of his lungs, while another boy and a little girl were dancing on the snow waving their arms and singing as usual, and at the same time trying to avoid another girl about thirteen years old, who represented a demon. She was stooping forward, and moving slowly round in time with the music, turning from side to side and rolling her eyes fiercely, while she licked the blade of an open clasp knife, drawing it slowly across her lips. They

> seemed intensely in earnest, and were enjoying themselves hugely. After dancing a while at the station they went over to the village, and as they told me the next day spent the whole night singing in a vacant snow house (Murdoch 1892:384).

A second instructive example was provided by H. R. Thornton (1931), from Wales, in the early 1890s:

> In spring the children play at numerous sports in imitation of the graver pursuits of their elders. One will stand by a small chasm in the ice; and, pretending that the part of the ice, on which his companions are, is moving away, call to them to hurry across before they are carried off. Some form an imitation flock of ducks, simulating the cries of the birds, while others throw their mittens at them as they rush past. Others get up a mock walrus hunt. Still others pretend to harpoon a whale, the animal under attack being made of walrus hide (Thornton 1931:123).

I do not think it too far-fetched to presume that early-19th-century youngsters in the study region would have engaged in the same kind of activity.

Speaking harshly to children was definitely frowned upon, as was perpetually forbidding them to do something they wanted to do (Stefansson 1914b:207, 282). However, explicit instruction was also an important part of a child's education.[9] In fact, the Iñupiat had a concept, *alġaqsruun*, which means "teaching by exhortation."

Most instruction seems to have taken place in two contexts. One was when males were in the *qargi*, and females were congregated in one or more dwellings (which were analogous settings with regard to their educational significance). These were the occasions when the elders, men in one case and women in the other, held forth on what was considered appropriate behavior and what was not. (Not surprisingly, one of the primary values conveyed during these proceedings was respect for elders.) These were also occasions for a great deal of conversation and storytelling, both of which served important educational functions for any youngsters within earshot. On a more mundane level, they were also contexts where quite a bit of work was done: women scraping and sewing skins in the house, for example, and men making tools or weapons in the *qargi*. Youngsters in their late preteen years in particular benefited from watching their seniors perform these tasks.

The second context in which instruction and exhortation took place was when a youngster and one parent (or surrogate, such as an aunt or uncle), usually of the same sex, were alone together. For males, this was usually when hunting; for females, it could be while gathering berries or other vegetable products, setting snares, or perhaps fishing through holes chopped in the ice. It was apparently during these semi-private interludes that parents were most likely to instruct their children on the standards underlying appropriate behavior in general, the principles of finding their way around the country and surviving in it, and the procedures for carrying out the specific activity in which they were engaged.

There were other ways in which young people learned as well. One of them was through learning how to do cat's cradles, many of which related to legends from the remote past. More important were stories told while traveling, in the *qargi*, or in the home. As Chuck Greene (2003) states in the foreword to Wanni Anderson and Ruthie Sampson's collection of relatively brief folktales,

> most of them emphasize or reveal the importance of human values and . . . pass on the knowledge associated with animal behavior, weather, strength, wisdom, common sense, the will to live, death, sharing, adapting, forgiving, laughter, family ties, loneliness, the sun, the moon, the stars, the light, darkness, the northern

> lights, winter, spring, summer, fall, hunger, competition, cooperation, animals, birds and survival, just to name a few (Greene 2003:v).

Still another way to learn about the history and traditions of their nation was to learn the place-names of the district in which they lived (Fair 2004:233–34; O. Swan 1984). Many Iñupiaq place-names were descriptions of the physical characteristics of the particular landform concerned, but most referred to specific individuals or events connected to the place concerned. Learning the place-names and the stories associated with them yielded a considerable amount of information on a wide variety of subjects.

The education of knowledge specialists differed to some extent from the pattern just described. Knowledge specialists, as outlined in Chapter 2, included the following: *iḷisiilat*, or clairvoyants; *sivunniqsriqirit*, or prophets; *iñuunniaqtit*, or tribal doctors; *quliaqtuaqtit*, or storytellers; and *aŋatkut*, or shamans.[10]

Clairvoyants and prophets did not acquire their special abilities through instruction or practice.[11] Indeed, they did not seek their role at all. It was simply thrust upon them, as it were, by some unknown force. However, viewed from the perspective of this book, it must be assumed that the individuals to whom this happened acquired a general knowledge of what the roles entailed through observation and listening to stories when they were youngsters.

Storytellers definitely acquired their special knowledge as they were growing up. Diamond Jenness (1924) described the process:

> In Alaska story-telling is one of the most favourite pastimes wherever three or four natives are gathered together, especially in the long evenings of winter. The old tales and traditions are repeated again and again in semi-stereotyped forms to never-wearying audiences, until they become almost as familiar to the young men of twenty as they are to the old men of fifty and sixty years. There are special "raconteurs," men who are famous for their knowledge of the old tales and traditions . . . (D. Jenness 1924:1; see also Lowenstein 1992:xxxv–xl; Ostermann 1942:163; and Rainey 1947:269).

The difference between *quliaqtuaqtit* and everyone else was not special training or different exposure to the basic information, but a better memory and perhaps a greater gift of eloquence. "Story-telling [was] regarded as an art and cultivated as such" (Ostermann 1942:163).

Iñuunniaqtit, or tribal doctors, acquired their special knowledge through one or a combination of procedures.[12] One was simply to watch experienced doctors going about their tasks and to listen to patients talk about the experience. Probably everyone acquired some knowledge of organ manipulation and bloodletting this way, but few became experts. Those who were particularly interested in learning how to do this type of work, in the absence of a mentor, could learn through trial and error if they had willing subjects. Most settlements were too small for them all to have *iñuunniaqtit* among their members, so many people must have tried simple medical procedures because they had no alternative. The final method was to serve as an apprentice to an acknowledged expert in the field, but this falls more under the heading of adult education than it does primary socialization. However, the acquisition of a general knowledge of what *iñuunniaqtit* did and how they did it had to have been part of everyone's primary socialization.

The final role in the knowledge specialist category is that of *aŋatkuq*, or shaman.[13] As noted in Chapters 2, 4, and 5, one needed to be associated with a familiar spirit (*qiḷa*) in order to be a shaman. There were several ways in which this could be done, including spontaneous possession by a familiar; purchase, inheritance, or solicitation of a familiar; and

apprenticeship under an experienced practitioner.[14] The specialized knowledge required of shamans was rarely acquired as part of one's primary socialization. However, learning in a general way what shamans did, and to at least some extent how they did it, was part of the basic learning process.

Adult Education

Education does not cease when primary socialization is completed. Adults and near adults must also exchange information with one another, at least from time to time. In the absence of a better label, I call such exchanges "adult education."

In Northwest Alaska, the shift from primary socialization to adult education occurred gradually during the transition from the *nutaat* (teenager) to the *iñuguŋaruq* (adult) stages of life. In our terms, this would have been during people's early to late teens, probably a bit earlier for women than for men. Unfortunately, adult education in early-19th-century Northwest Alaska is a poorly researched subject. The account that follows, therefore, is necessarily brief, and based as much on speculation as on evidence.

The key to understanding adult education in Northwest Alaska lies in the fact that, as Simpson (1875:251) noted, the Iñupiat were, in general, very communicative people. They talked to each other a lot, whether in idle gossip or in more structured ways, such as story-telling sessions (Woolfe 1893:143, 144, 148). At certain times of year, particularly in winter, they devoted a great deal of time to conversation.

Trollope (1855) described a scene that must have been typical of most households. In January 1854, he was staying in Wales at the home of two brothers who had been out hunting seals, separately, most of the day.

> After dinner a very animated conversation took place between them, which we by their motions, and a word here and there recognized, were quite able to follow as being a description of the sport they had had, and their success with the seal (Trollope 1855:874).

It is not unreasonable to suppose that, during the course of this conversation, they discussed ice conditions, the weather, observations of bear or fox tracks, other hunters they had seen, and any unusual incidents that may have occurred. In the process, they would have provided useful information both to one another and to any other people who were listening. If similar scenes were being played out that night in all or most of the other fifty-nine households of Wales, it may be understood that a tremendous amount of important information was being exchanged. Since women were by no means house-bound, but ventured forth to snare ptarmigan, fetch firewood, hook for fish, and perhaps retrieve their husband's harvest of the day, similar exchanges must have occurred among them as well. Exchanges of information like these must have taken place almost every day.

The Iñupiat differentiated between men's and women's normal activities, but there was no prohibition (in general) against men doing women's work and vice versa. However, men probably tended to exchange certain types of information more with other men than they did with women, particularly when they were gathered together in a *qargi*. Similarly, women exchanged more information with other women than they did with men. The overall flow of information probably favored women, because they were often present but quiet when men were conversing and thus could hear what was being said. When women were conversing, men were often either somewhere else or, if present, ignoring the discussion. Casual conversa-

tions around the village, or more concentrated ones in the *qargi* or someone's house, would have facilitated the spread of information throughout the settlement.

Geographic information, which was very important to people who traveled so extensively, was widely exchanged. When the matter was not too complex, this was done verbally. Place-names for major topographic features, many of which were descriptive (e.g., "razorback ridge"), were very helpful in this regard. In more complicated situations, the Iñupiat created maps—in snow, mud, or gravel.[15] The best documented case of this was recorded in August 1826. F. W. Beechey was exploring and mapping the coast of northwestern Alaska, and happened to visit a camp of Iñupiat who were apparently returning home to Wales from the trade fair at Sisualik. Natives and Englishmen could not understand each other's language and there was no interpreter present, but the former understood that the latter wished to acquire some knowledge of the country. So, the Iñupiat produced a map on the beach for the Englishmen.

> The coast line was first marked out with a stick, and the distances regulated by the days' journeys. The hills and ranges of mountains were next shown by elevations of sand or stone, and the islands represented by heaps of pebbles, their proportions being duly attended to. As the work proceeded, some of the bystanders occasionally suggested alterations. . . . When the mountains and islands were erected, the villages and fishing stations were marked by a number of sticks placed upright, in imitation of those which are put up on the coast wherever these people fix their abode. In time we had a complete topographical plan of the coast from Point Darby to Cape Krusenstern [a coastline some 500 miles/800 km long] (F. Beechey 1831, I:399).

The Iñupiat's proficiency in producing this display indicates that it was probably not their first time. Exercises of this kind must have been particularly common at international gatherings, such as the Sisualik fair or messenger festivals. By such means people could learn the basic physical characteristics of other countries without visiting them; Beechey learned about the existence of an important harbor which he had missed, and which was not on any Western map of the country.

The sharing of information was by no means limited to families and settlements. Men, in particular, ventured some distance from their homes in their search for game and must have encountered men from neighboring settlements from time to time. When meeting, it is hard to believe that they would not have stopped to chat. At certain times of year, entire families moved about the country, and in doing so would cross paths with relatives and friends from time to time. In addition, people often visited relatives in other settlements. When these small contacts are added together over an entire yearly cycle, it is clear that an Iñupiaq nation was a major information network.

One context in which information seems *not* to have been exchanged was when a teenage or adult male or female was engaged in a project and was making or was about to make a mistake. No matter how many people were observing, and no matter how many of them knew that the worker was headed the wrong way, they would not bring it to the worker's attention—unless, perhaps, the error would have been fatal. Learning by doing included making mistakes.

Research

Regardless of how much information is passed from one generation to the next, there is always a need to add to or update it from time to time. New information can be discovered

by accident, of course, but at least some must be acquired deliberately. The most appropriate term I can think of to label this process is "research," which I define as the deliberate search for information that is new to the investigator. Unfortunately, this is another poorly investigated subject in northwestern Alaska about which relatively little can be said.

I begin with two examples of what I consider to be research, both from the late 19th century. The first involved the Nuataaġmiut, of the upper Noatak basin.[16] In the late 1870s and early 1880s, the Nuataaġmiut sensed that caribou were becoming progressively less numerous in their estate, and they learned by talking to people from other nations at the Sisualik fair that caribou numbers were rapidly diminishing in estates farther south. As the people most dependent on caribou in the entire study region, the Nuataaġmiut envisioned themselves as being headed for disaster. They had heard that caribou were abundant in a largely uninhabited district in northeastern Alaska, but they wanted to have the rumor confirmed.[17] So, before breakup one spring, a small party of Nuataaġmiut crossed to the north side of the Brooks Range, traveled down the Colville River, and reconnoitered the country to the east to see if what they had heard was true. It was, so they returned home and reported their findings. The following winter, a large percentage of the Nuataaġmiut abandoned their homeland and moved to the North Slope. While this example dates from about thirty years after the study period, I think it reasonable to suppose that it represents an approach to acquiring information which had ancient roots.

The second example probably dates from the late 1890s. By this time, some people from the Kivalina, lower Noatak, central Kobuk, and Kotzebue Sound districts were making annual spring visits to Jabbertown, near Point Hope, to work for American shore whalers based there (Jensen 1970.3). Late one winter some Kivalina people were making preparations for the trip, but were worried about illness, which often struck Point Hope and other coastal settlements during the summer months. So, they hired a shaman named Aiviŋuaq to investigate. Aiviŋuaq brought out a little wooden doll, dressed it in a miniature rain parka made from oogruk intestine, and placed it with a miniature lamp inside a tiny tent in the middle of a house floor. Then he beat his drum, danced, and sang a mysterious song. In due course, the doll stood up inside the tent, lit the lamp, and began to sing and dance also; the observers could infer what it was doing from the play of light and shadow on the tent wall, and of course they could hear its song. Then the shaman and the doll, or, more accurately, the spirits that now possessed them, held a conversation in some incomprehensible language that my informant concluded many years later must have been Japanese. After more drumming, the light went out in the little tent, the doll lay down, and silence reigned. After a pause, the shaman reported to the assembled multitude that the doll's familiar spirit had told his own that the whalers would be successful in the spring, and that no sickness would come to them during the summer. Accordingly, the Kivalina people went to Jabbertown, and both predictions proved correct. Again, although this event occurred more than two generations after the end of the study period, I think it fair to assume that it represented an ancient form of investigation.

These two examples represent fundamentally different ways of conducting research. The first was based entirely on empirical procedures and phenomena, while the second was based to a significant extent on magic, involving nonempirical elements, hence was unverifiable by a nonbeliever. Oversimplifying to some extent, one might characterize the first process as predominantly rational research, and the second as predominantly nonrational research, but both were thoroughly Iñupiaq.

It is impossible to know for certain at this remove in time the basis on which a particular approach was selected. It would appear as though the Iñupiat emphasized predominantly rational research in certain spheres of life, and predominantly nonrational research in others. For example, their tools, weapons, means of transport, clothing, dwellings—practically everything discussed in Chapter 4 under the heading of manufactured goods—must have been developed over the generations through research that was predominantly rational. It was probably conducted in the form of trial and error, which, if carried out self-consciously, is definitely a form of research. The question of whether or not game was present in a given area seems to have been subject to predominantly rational research. Mysterious phenomena, such as disease—the primary concern in the second story—were more likely to be investigated through predominantly nonrational research.

Whether these two modes of research were employed during the study period is a fair question, but one I cannot answer. Simpson (1875:251) said that, although exhibiting the usual individual variation with respect to intelligence, the Iñupiat generally possessed "great curiosity," a trait that would lend itself to creative investigation. Similarly, Thornton (1931:44) claimed that Iñupiat seemed to "possess a remarkable desire for learning for its own sake and an equally remarkable appreciation of its value." In contrast, Stefansson (1951:62–63, 146–49) claimed that Iñupiat were not interested in visiting country they had never seen before unless the district in which they were living had run out of game. "They do not go over the mountain for the sake of finding out what there may be on the other side" (Stefansson 1951:152).

Research into the relationship between broken taboos and calamities, which definitely took place during and after the study period, had a substantial nonrational component because it depended on the relationship between shamans and their familiar spirits. It was not totally nonrational, however. After watching several people die (from hypervitaminosis A) after eating polar bear liver, for example, a shaman's determination that it was a tabooed substance had a solid basis in empirical fact. Most taboos and rituals probably were not so well grounded.

Most research conducted by Iñupiat was more mundane than the above examples imply, and it was also more frequent, being carried out nearly every day. Examples of regular research included the hunters' daily study of weather conditions, examination of animal and human tracks around the settlement, and frequent scanning of the countryside for game.

Iñupiat also conducted research at the international level, or at least *umialgich* did. The main foci of trade fairs and messenger festivals were trade and having fun, but a secondary focus was finding out what was going on in other countries. Through this process, at least the leaders in each nation acquired some knowledge of the landscapes of countries beyond the borders of their own estate that they themselves had never seen, and also updated themselves on the general situation existing beyond their own borders (F. Beechey 1831, I:399; Murdoch 1892:43–46; Simpson 1852–54: entry for Jan. 11, 1853). At all international gatherings, but particularly at the fairs, they also attempted to discover if raids were being planned against them so that they could make preparations for dealing with them. *Iññuqutit*, the prowlers who plagued almost every district each summer, may have been deliberately reconnoitering the country in advance of a raid. Unfortunately, I have been unable to acquire specific information on this point.

SOCIAL LIFE IN NORTHWEST ALASKA

The Structure of Iñupiaq Eskimo Nations

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