

UC Merced

The Journal of California Anthropology

Title

For Sale: California at 47 Cents Per Acre

Permalink

<https://escholarship.org/uc/item/9zm9w0z6>

Journal

The Journal of California Anthropology, 3(2)

Authors

Heizer, Robert F
Kroeber, Alfred L

Publication Date

1976-12-01

Peer reviewed

For Sale: California at 47 Cents Per Acre

ROBERT F. HEIZER and
ALFRED L. KROEBER

NOT very much has been written about the claims case of the Indians of California versus The United States of America which was allowed by the federal government under the Indian Claims Commission Act (H.R. 4497) of August 13, 1946 (60 Stat. 1049; 25 U.S.C. Sec. 70ff.). Omer C. Stewart, one of the expert witnesses on behalf of the petitioners (Indians of California), reviewed the work of another expert witness for the petitioners, Alfred L. Kroeber.¹ As Kroeber's main back-up helper and runner, as well as having served as an expert witness, I feel that I can speak of the proceeding through firsthand knowledge.

In a review of the eight volumes recently issued by Garland Publishing Inc. under the umbrella title *American Indian Ethnohistory: California and Basin-Plateau Indians*, comprising certain exhibits placed before the Indian Claims Commission in *The Indians of California vs. The United States of America* (Dockets 31 and 37), I observed that these are heavily overweighted with items presented in evidence by the defendant (The United States of America) against whom the commissioners decided on July 31, 1959. In short, with the exception of three exhibits totaling 229 pages prepared by the petitioners' expert witnesses, the eight volumes under consideration comprise the defendant's arguments *which the commissioners rejected*.

The series of hearings occupied a total of 38 days in which direct testimony and cross

examination of expert witnesses on each side were held.² These are recorded in an official transcript running to 3838 typewritten pages. This testimony has not been, and probably never will be, published. Copies are in the National Archives and in the files of the Wilkinson, Cragun, and Barker law firm of Washington. During the hearings, the petitioners introduced 469 exhibits; the defendant entered 160. It is my intention to publish shortly a partial list of the petitioners' exhibits, together with a tabular abstract referring to evidence in these of aboriginal use and exclusive occupancy.

The petitioners' efforts were concentrated on presenting, in an organized way, already recorded ethnographic and historical testimony and archaeological data to demonstrate the fact of aboriginal ownership, exclusive use, and occupancy of lands lying within tribal boundaries. The defendants' method to partially disprove this was by reference to a detailed ecological analysis in which each tribal area was evaluated for productivity and an assessment made of what percentage of the land was used to secure the preponderance of the food collected and eaten.³ This argument became known as the "ecological theory," and there was much discussion of it in the commission's hearings. But in the end it was rejected, as it should have been, by the unanimous opinion of the three commissioners, Edgar E. Witt, Chief Commissioner, and Louis J. O'Marr and William M. Holt,

Associate Commissioners. I believe that the defendant did not really expect the commissioners to accept its argument in toto and deny wholly that of the petitioners, but rather hoped to materially reduce the amount of land which would be compensated for and thus substantially lower the settlement dollar figure.⁴

Kroeber and I were the principal expert witnesses for the petitioners, and it fell my lot to give the direct testimony in rebuttal and submit to cross examination on our anthropological evaluation of the ecological theory. Part of the rebuttal was printed in a reply brief of which only a limited number of copies were issued.⁵ The full testimony, taken from the stenotype transcript, appears below. I am indebted to Mr. Robert Barker of Wilkinson, Cragun, and Barker, for supplying me with a xerox copy of my testimony which comprises pages 3221-3298 of the official court stenographer's transcript. Since Dr. Kroeber and I together planned the way in which the direct examination would proceed, I have added his name as co-author here. Kroeber, it goes without saying, could have done a better job in the witness chair than I did, and, of course, a very much better job than I managed under Mr. Ralph Barney's questioning. Mr. Barney, of the U.S. Department of Justice, and I sparred a bit in the cross-examination, and in this I did not come off very well. Perhaps this was due to the fact that he was an experienced lawyer and I was a 40-year-old professor whose courtroom experience was limited to appearing briefly before a judge after a night spent in the Sacramento city jail 20 years before, while a junior college student, for belting a neighbor for being abusive to me for allegedly using bad language which his no-doubt virginal daughter allegedly heard out of the window of my \$25-a-month boarding house room. It is amusing to read, 22 years later, my testimony. I can scarcely believe that my sentence construction was *that* bad, but it is a matter of record and cannot be changed, so here it is, warts and all. I

can also now understand why I never wanted to become a lawyer.

Kroeber and I believed that this particular testimony was probably of some influence in leading the commissioners to reject the ecological theory of the defendant and to favor the direct testimony of Native Californian consultants (i.e., informants) which was recorded in earlier years before there was any thought that it would serve as evidence in such hearings. In the written decision⁶ of the commissioners of Dockets 31 and 37 consolidated, reached on July 31, 1959, they said:

We believe the study of the economic resources of the state and their relationship to the quantity of land required to support the Indians in their way of life has value in understanding the economic picture. However, we cannot accept the Government's thesis that the resources of the state or any part thereof can be determined mathematically by assigning a large percentage of subsistence derived from a small part of a given territory and reduced percentages of subsistence in other areas of a territory claimed by a particular tribelet. The testimony and the ethnographic literature, of which there are volumes in evidence, show that the Indian groups ranged throughout their respective territories in their gathering, hunting and fishing excursions. While these Indians were never considered nomads, their exploitation of the available resources in a given territory required frequent and extended travelling within the territories claimed. We believe it unrealistic and contrary to the Indian mode of life to restrict Indian territorial rights to the lands which would simply provide adequate subsistence and disallow their land claims to the areas which were of secondary importance or supplemental to the main source of supplies. We suspect territorial expanse was as much the desire of these primitive peoples as it is characteristic of the white man for there is much ethnographic evidence that the Indian groups in California moved about their respective domains gathering wild foods as they

ripened or captured available wild game, and during a normal season would visit and use the whole territory to which they asserted ownership as their exclusive places of abode.

TRANSCRIPT OF THE HEARINGS
AFTERNOON SESSION - 1:30 P.M.
[September 28, 1955].

COMMISSIONER O'MARR: Proceed.

MR. [REGINALD] FOSTER: I would like to call Dr. Heizer. I will call the Commission's attention to the fact that Dr. Heizer has been already sworn in [Docket] 31-37.

- -

ROBERT F. HEIZER

recalled on behalf of Plaintiffs in Rebuttal.

DIRECT EXAMINATION

BY MR. FOSTER:

Q. Dr. Heizer, you have heard or read the transcript of the testimony of Dr. Beals in this case, have you not?

A. Yes, sir, I have.

Q. And you recall, do you not, Doctor, Dr. Beals' ecologic theories as applied by him to determine use and occupancy of California lands under aboriginal conditions up to 1848?

A. Yes, sir.

Q. Your attention then, Doctor, is called to the oral statements of Dr. Beals, Dr. Driver, and other witnesses with respect to the percentage of land areas which would provide the greater part, in some cases up to 90 percent, of the subsistence of the Indian.

A. Yes, sir.

Q. Then, Doctor, based upon your research and study of the Indians of California, about which you have formerly testified in this case, do you consider the ecologic theory as applied by Dr. Beals and the other Government witnesses the method to determine the use and occupancy of California lands by the Indians under conditions which existed in California about the year 1848 when the United States assumed dominion over Cal-

ifornia under the Guadalupe-Hidalgo Treaty or under conditions which existed in California in the period of gold and settlement rush which followed the 1848 period?

A. The answer to that is that I do not consider this the method to prove those points.

Q. Well, then, Doctor, will you please state upon what you base that conclusion?

A. The use of ecology or ecological analysis is, as I believe generally admitted by all parties concerned here, old and well-established. It was used by Kroeber, by Merriam, by Barrett and Gifford, by Kniffen, by Omer Stewart, by Julian Steward, and others who perhaps do not have to be mentioned.

The point I make is that the ecological factors have never been disregarded and reference to Dr. Kroeber's handbook, which I think is [Exhibit] RH-50, will show that practically every chapter contains statements or facts which might be called ecological in nature.

The main value of ecological analysis is primarily as a basis for understanding the external environment and as the background for understanding the means of subsistence, that is, the day-to-day making of a living; survival, if you will, for peoples, but as a means of classifying human groups, the people of an area, the relevance of ecology is distinctly secondary.

People have language, society, culture, tools, and techniques, which plants, animals, and rainfall do not. There is a separate and additional factor involved with reference to Indians. As the defendant's maps and witnesses' testimony show, ethnic boundaries and life zones rarely coincide. For this reason, that humans who have cultural equipment which no animals or plants obviously have, humans are not limited to activity within a narrow zone of education [elevation] or temperature.

Speaking generally, no one single factor adequately explains any social or cultural

situation. When ecology is used as a basic principle for Indian economic classification, here is where it breaks down. For example, the riverine type of economy cuts across climatic and life zones for the reason that streams and fish are the important factors in this category. The same is true for the lake type of economy. If we look at Clear Lake, Tulare Lake, Lake Tahoe, the Tule-Klamath Basin, we see that they are all ecologically variable, but they are classified together by the Government witnesses.

The type group of tideland gatherers are the Wiyot, the people whose center lay around Humboldt Bay in Northwestern California, but the Wiyot are the only tribe in this entire category of tidelands gatherers who might be called flat bayshore people. All other tribes in this category, such as the Tolowa, the Coast Yuki, the Coast Miwok, the Costanoans, et cetera, proceeding roughly from north to south, all of those groups occupied territories which cut across life zones and although all of these coastal people are tidelands gatherers, although they do use the shore, in addition they exploit rivers and streams and forests and hills which lie in the hinterlands.

A further example is the Coast Yuki who consist, according to the data contained in Exhibit RH-102, a monograph by E.W. Gifford, of eleven independent tribelets, each one of which owns a strip of ocean frontage and a strip inland, including one or two creeks and a ridge or two. Each tribelet had one settlement at or near the beach which [was] occupied from April to October, and one or more inland settlements generally situated near springs which were occupied between October and April, the other half of the year.

Winter settlements might lie up to a thousand feet in elevation and one winter settlement of one of these tribelets is specifically stated to lie in a redwood grove. Thus the Coast Yuki, despite their seasonal migrations, inhabit actually [?] they comprise one group,

one people, and each of the eleven sub-units or tribelets move seasonally.

Now, I submit that this sort of situation is typical of California Indians and evident in testimony, and exhibits already submitted, of coastal and desert and valley and mountain peoples, bears out this contention.

To return to the Wiyot, they actually may be classed as an extreme case, an exception to the tidelands gatherers type and are not really to be taken as typical of tidelands gatherers. Although it is true that the Wiyot might or could have gotten their entire subsistence from the shore, it is also a fact that they fished up the rivers, collected in the back country, and hunted widely over their territory; so that merely saying that the Wiyot could have secured the bulk of their subsistence from a small fraction of their total area is a theoretical conclusion, since actually and in fact they ranged far and wide for food, and I think this is important for other additional resources used in the Indian culture and economy.

Q. What then, Doctor, is the use of the ecological approach? Has it no value?

A. Certainly it has a value. It has a value in contributing part of the total picture. The point I have tried to make is, as a basic framework to determine Indian use and occupancy, we must work from the human, the Indian populations, the societies which use ecology.

Q. Doctor, what does the ecological approach show? Why should it have been used here at all by the defendant?

A. Well, that is a difficult question, and I give you a personal impression or opinion. I have the impression that the ecological approach is meant to be a novelty, the implication being that it was new or if not quite that, at least had the benefit or the advantage, the recommendation, of being something precise where its' conclusions could be stated with precision in terms of percent.

The implication is that it upsets the

Powers, and Powell, and Merriam, and Kroeber standard ethnic classifications. So far as I know, the method as it has been presented here has not before been used either by anthropologist or historians who know that aboriginal peoples do not use their land like that, nor do they feel that way about it. The ecological approach as it has been presented here, in my opinion, permits a singling out of part of a habitat which is within one life zone or ecologic type as being typical and important and thereby offers the means of minimizing or discarding the balance of the area. That this sort of precision is unwarranted in assigning percentage of subsistence derived from a small fraction of total territory is to be seen in scores of statements based upon Indian testimony and published to the effect that groups ranged far and wide within their own territories in the course of the year, and this sort of movement is attested for tidelands gatherers, for lakeshore peoples, for desert peoples, for valley and mountain groups.

Furthermore, although one hears that 90 percent of the subsistence was got from 5 to 10 or 20 percent of the area, no maps have thus far been presented to show where that specific 5 or 10 or 20 percent of the area lay. The ecologic approach shows what a group of Indians could have lived off of, if they had wanted to; not what, historically, in terms of ethnographic documentation, they actually did live off of. The argument seems to me that if one accepts the ecological approach as it has been presented here, he denies or belittles most of the area which in fact was used, as not having been used and this conclusion is unrealistic and is far from the actual situation because it disregards the people, it disregards their history and implies that their rights were reduced to simply getting enough to eat.

In other words, it makes them animals and denies them everything else.

Q. Then, Doctor, your opinion is that there are dangers, or one should say perhaps a

difficulty, in using this method of approach?

A. Yes, that is my opinion because the use of that approach makes it easy for the person who is using it to drift from fact into hypothesis by selecting out and emphasizing certain and particular aspects of Indian land use and ignoring others.

It amounts, in other words, to an artificial dissection, a tearing apart of the actual situation.

Q. In other words then, Doctor, is it your opinion that assignment of Indian groups to single ecologic classes as selective as regards subsistence habits alone is therefore likely to be warped?

A. Yes, that is my opinion and for this reason: That practically all native California Indians subsistence was of what might be called a multiple type, and one can correctly say that the majority of the economy was derived from several different environments and sources.

Q. Doctor, I think that is a very important point, your statement that their economy was derived from several different environments and sources. Will you illustrate this, please?

A. I will illustrate it, if I may, by reading three excerpts from Exhibits which I think are quite relevant at this point. I have selected these to illustrate the point from different Indian groups living in different environments. In other words, three groups—I will read you three examples which illustrate the point involved in three of the ecologic classifications.

The first is from Exhibit RH-43, page 306, an article by Leslie Spoehr [Spier] entitled "Southern Diegueño Customs." These would be classed, I believe, as desert people. Spoehr [Spier] says:

The occupation of the gentile (by which he means lineage) theories [territories] was seasonal. Winter found them living in groups of mixed gentile affiliation among the foothills on the edge of the Colorado desert. In the spring they returned to the mountains, keeping pace with the ripening

of the wild food staples and passing the summer in their respective territories where they lived in little groups about the valleys. The whole territory was not occupied at one time. When a locality was hunted out or fruits ripened elsewhere, they moved on. In the course of a year or so, however, all of the recognized settlements would have been visited.

That is the end of the quotation, and I might add that Spoehr [Spier] lists or identifies 21 lineages for the Southern Diegueño, and lists a total of 104 named, what he calls "homes," which are really homesites or seasonal living sites, and this list is incomplete because that information, which is rather precise, had been in part forgotten by the time Spoehr [Spier] did his investigation.

The second illustration of what I have termed here the multiple type of economy derived from several different environments and sources, comes from Exhibit RH-99 which is entitled, *Tübatulabal Ethnography* by Dr. Erminie W. Voegelin. On page 51 it is stated:

From February through the middle of August, food gathering activities kept Tübatulabal shifting about in family groups in lower altitudes, 2,000 to 4,000 feet. Chiefly in lower and upper sonoran life zones, in valleys, foothills, rivers, canyons. From August to the middle of November, groups moved into higher altitudes of 5,000 to 6,000 feet, first east of [to] piñon ground on the west slopes of the Sierra-Nevadas in the transition zone and west to acorn grounds in Greenhorn mountains in upper Sonoran zone. Family groups or individuals might also go on trading trips after piñon harvest. During short winter season, from the middle of November to February, family groups returned to valley foothill region in lower and upper Sonoran zones and men did some hunting, fishing and procured salt from desert, but at this season 'mainly stayed home not doing anything' and lived in small hamlets.

The third illustration of this point refers to the eastern Pomo who, if I am correct, are classified as of the lakeshore type. At any rate

they hold a portion of the northeastern shore of Clear Lake. The passage I quote comes from Exhibit RH-56, page 159.

Q. Who is the author of that?

A. That author is Edwin M. Loeb. The title of the work is *Pomo Folk Ways*. Loeb says:

The eastern Pomo were a migratory people to a certain extent, and as such maintained several residences. The most substantial house was occupied through the winter. Another would be in the village settlement on the lake-shore or near some stream during six weeks or two months of the spring fishing season. Returning to the first site they would make this their headquarters during the summer while expeditions to the coast, to the salt beds and to the magnesite diggings were being made. In the fall the village would move to the mountains to gather acorns also going to the same place. Each family usually had a hut in each of these three places. The Coast Pomo broke up their winter encampment in the spring and followed the course of the summer fishing.

That is all incidentally. I have not omitted anything. That is the entire quotation on that matter.

Q. Do you have any other illustrations, Doctor?

A. There are numerous illustrations.

Q. Just for the record, could you cite some of them please.

A. I am able to do that, and for the record I will cite Plaintiff's Exhibit RH-21, Page 201; RH-61, Page 318; RH-23, Page 69-70; RH-43, Page 306; RH-46, Page 139 to 140; RH-71, Page 17, RH-89, Page 137. The list is very much longer. I think that is enough in illustration of this matter.

Q. That concludes your list, does it Doctor?

A. Yes, sir.

Q. Then, Doctor, what is your opinion with reference to the ecological approach insofar as it emphasizes areas of greatest importance to the Indian?

A. It is agreed by everyone that within the

territory of each group there were areas of more or less importance to the Indians, and in earlier testimony by Dr. Kroeber and myself, we have pointed this out, but we have done so by considering the total area used and then, so to speak, the proportion of the parts.

The defense on the other hand employs the fact of differential use, not to find the true balance, but as a means of discarding most or all secondary or supplementary sources of subsistence as well as other aspects of land use.

It is my opinion that these secondary and supplementary use features might have aggregated as much as half of the total use of land and its products. The result is, if we accept the defense argument, one tends to think of areas as used only for food, with all other varied uses as counting for nothing. They have minimized the use of territory for securing such items as salt, hides, furs, medicinal plants, marine shells used for ornaments and money, sacred spots, stone from which various sorts of implements were made, basketry materials, clay for pottery, the use of the land to travel over by means of trails and the like.

In other words, the picture is oversimplified. Important facts are minimized. The situation is over-typed or excessively typed, if you will, instead of being balanced.

I wonder if I might read one more quotation which illustrates this point in certain fashion?

Q. Yes, please do.

A. This feature of secondary use, I quote from an exhibit prepared by myself. I never knew it was going to become this popular. It is Exhibit RH-126. It is a set of lecture notes prepared by me for a correspondence course which I conduct at the University.

The reference occurs on Page 4 of Assignment 11, and it is not an original, but it is a quotation taken from the monograph of Julian Steward, entitled *Ancient Caves of The Great Salt Lake Region*, published by the Government as Bureau of American Ethnology

Bulletin 116, Page 105.

The quotation is as follows:

In the southern end of Eureka Valley, near the northern end of Death Valley, there is a site bordering on the playa and extending several miles with thousands of flint flakes with relatively few intact, marking it predominantly a workshop, though the source of the flint is several miles away in the mountains. The nearest water is a spring three to five miles away. There is no apparent reason why anyone should choose a place lacking water, having virtually no vegetation and in fact devoid of anything of apparent use to man or beast for a workshop or other purpose. Nevertheless the presence here of large spherical stone mortars of the type used by Death Valley Shoshone and at least one arrow point of the Shoshonean type is presumptive evidence that the Shoshone visited the site. Though it does not of course prove that they used it as a workshop. Although Mr. and Mrs. Campbell have never found a campsite more than three miles from a water hole in Southern California, the writer has repeatedly received accounts from Shoshone and Paiute informants of camps maintained by entire families and groups of families for days at a time, ten and even twenty miles from water, when seeds, salt, and flints, edible insects or other important supplies made it worthwhile to do so. Water is used sparingly and when the ollas in which it is transported are empty, one or two persons make the long trip to replenish them.

That is the end of the quotation, and it illustrates, I think, an inherent difficulty in a mechanical application of a, I'll say, a formula or a theorem which selects only the most favored areas. These are areas which I am quite sure would be classified as of, in the terminology of defense witnesses, as an area of little or no use and yet here is circumstantial evidence to the contrary.

Q. Now, Doctor, right along that same line, can you give us an example of the Government's idea of the selective consideration of data?

A. I can and I will cite as my example Defendant's Exhibit No. 163.

MR. BARNEY: I didn't get that question.

MR. FOSTER: Q. Will you give us an example of the Government's selective consideration of the data?

A. I would characterize, although I do not

--

Q. Pardon me. What is that exhibit about?

A. I am about to say that I do not recall the precise title, but I think it is a summary at any rate on the last page of "California Vegetation Types" and an estimate of their utility and on that page it is stated, at least this is roughly what it states, about 23 percent of California was of maximum or most value to Indians, about 21 percent had medium value.

COMMISSIONER O'MARR: Did you say 173 or 163.

MR. FOSTER: 163.

THE WITNESS: 163.

If I can backtrack a little and quote from this exhibit:

"Most valuable vegetation types, about 23 percent, vegetation types of very little or no value, about 53 percent; and types of medium value, about 21 percent."

COMMISSIONER O'MARR: That is speaking of the State as a whole, as I understand it?

THE WITNESS: Yes, sir, that is my understanding of what is intended by these figures.

COMMISSIONER HOLT: That was with reference to vegetation?

MR. FOSTER: Yes, I believe to vegetation only.

THE WITNESS: The question which occurs to me is how it is possible to make such specific numerical expressions of terms which are themselves vague and not precise. Why are lands of no value and little value lumped together? One might also ask what point distinguishes land of most value from medium value, and where is the distinguishing point

between lands or vegetation of medium value and little value?

The terms are vague. They are descriptive. They are undefinable within any precision, but the defense has converted these into exact percentages although with the qualification of "circa" or "about." Indians are human, that is, living, sentient animals who possess ideas and ingenuity and what is also important, they possess the cultural equipment to put these concepts into action, and the application of a mathematical formula to vegetation maps in order to compute what land was used and what was not used by the Indians is mechanical and arbitrary and ignores the Indian accounts of how actually they lived and did use the land.

A further comment might be made [as] to the artificiality or the mechanistic nature of this method as shown by the conversion, the automatic conversion, of linear stream miles into square miles apparently for the purpose of adding stream linear miles to other square land-mile totals. It still remains a fact that linear stream miles are not square land-miles, and in this sense the data depart from reality.

MR. FOSTER: Q. Now, Doctor, how about ownership as used in the common meaning of the term and as expressed by the Indians themselves? Do the Indians recognize ownership? Do they exhibit an awareness of their boundaries?

A. That is really two questions and I will answer them in sequence.

California Indians each, insofar as my knowledge goes, and I admit that I am not a linguist, [?] a study of Indian languages appears to be poor in abstract nouns for such terms as boundary or limit. Mostly California Indians expressed these with reference to concrete situations as for example, in referring to a specific physiographic feature such as a mountain, a creek, a canyon as marking the boundary or the limit or the edge of their territory. Various of the plaintiff's exhibits contain recorded Indian testimony as to such

things as the Indian cairns, piles of stones which were built, in this instance I am thinking of the Yokuts, to mark boundaries, of the use of creeks, mountains, and the like which served as the outward indicators by which Indians delimited the territory of the group.

For a specific example, Stephen Powers, whose book, *Tribes of California*, was published by the Government in 1877, Exhibit RH-15, writes on page 109 that the Mattole and Wiyot of Northwestern California marked their boundaries by certain creeks, canyons, conspicuous trees, and springs, and that the mothers taught their children the name and exact location of these boundary markers, and when the children were old enough, conducted them around the boundaries to see and learn these markers. And there are other examples of precisely this sort of thing on which I gave testimony last year.

I cannot give you the page reference from the transcript.

For another example, in Exhibit RH-125 on page 385, Dr. Walter Goldschmidt and two co-authors wrote of Black Butte, which is a prominent mountain, as the "Yuki-Nomlaki boundary line."

The evidence, I believe, is abundant and specific that delimited territories was a regular and normal part of California Indian life. I did not go into that matter in detail. I have given testimony and cited exhibits last year. I looked up the transcript on a portion of that; at least a compact portion of it is contained in the transcript pages 349 to 357.

Q. That is the 1954 transcript?

A. Yes, sir.

Q. Now, Doctor, as respects the testimony you have heard or read concerning depopulation or diminution of numbers of the Indians of California, do you know of any instances of boundary changes of the groups of Indians of California between 1830 and 1848?

A. I know of no instances of boundary changes between 1830 and 1848. I am not

saying that such do not exist. I am saying I do not know of any examples or instances.

Q. Now, Doctor, you were present and heard or read the transcript in this case of the testimony of Dr. Beals and Dr. Driver as to the matter of the home range, the area surrounding the village within a radius of daily movement out and back from that home village?

A. Yes, sir.

Q. Will you please comment on this home range idea?

A. The home range idea is obviously true in the sense that residence is normally close to or in the general area of the greatest productivity. To think otherwise would be unreasonable. But what is also true and has not here been sufficiently emphasized is that the home range alone was not all that was really owned. Any impression that the home range by itself counted as the sole subsistence resource area is in my opinion incorrect.

Within the group-owned area there was a sliding scale of land and resource use. The central or nuclear area, if you will, was the region of maximal use and progressively, as one goes toward the edge of the territory, the utilization became quantitatively reduced.

I am, of course, assuming here a hypothetical situation where the main body of settlements and the most productive area occupies the center of the territory. That may or may not be the actual instance. It is closer, it seems to me, to the actual situation to realize that this scale from maximal to minimal utilization is a normal phenomenon in Indian California, and to make the further point that this variability of use was restricted to the area within the group or, if you will, tribally owned territory.

Q. Did the people of a village restrict their movement to the home range? That is to say within a radius of ten miles from their home.

A. No. They obviously did not, nor do I think that is specifically claimed by the defense. The point is, however, that the great

majority of California Indians shifted from their homes seasonally or made trips to particular places to collect special items. At the same time it is generally true that at any one time—and I think that phrase is important—most of the subsistence activity was carried out within a five- or ten-mile radius. But in the course of the year the scene or the center of the nucleus of operations might shift materially.

Let me attempt to illustrate this with reference to the Wappo, a group who in aboriginal times occupied what is now generally speaking Napa Valley, some miles north of San Francisco Bay. The main source of information which we have on the Wappo is a monograph by Dr. Driver entitled "Wappo Ethnography." It has been mentioned before here, Exhibit RH-89, on pages 185 to 187, and there is a list of economic resources of the Wappo. And if one inspects that list, he can count four salt-water animals, ten fresh-water species, 12 species of birds, 20 kinds of land animals, 3 insects, over 50 plant products which were edible and collected, and in addition, such additional items as salt, what the Indians call pepper, pine sugar, which was a condiment, yellowjacket larvae, and so on and so on.

The total amounts to over 100 food items, and you do not have to be much of an ecologist to show that these, the total, the totality of these food resources were drawn from the hills, the valleys, and from fresh and salt water sources at various seasons during the year.

Now, in this sense, if one were adhering strictly to the home range idea as though the home range was something permanent established and maintained throughout the year, we would have to include all of Wappo territory as the home range, and we have examples of this, as I have indicated in referring to seasonal movements and exploitation of area—we have examples of this for the Yurok and Hupa, who are notably a sedentary people who in the acorn-gathering season would go camping for

two or three weeks up in the hills or who on occasion would go from one to four weeks up or down river to attend a big ceremony.

The Coast Yuki, and in fact most of the Coast Range Indians, had two or three or four seasonal home and camp spots at which they lived successively during the course of the year. And evidence has been introduced in exhibits to show the desert peoples moved readily, as in the instance of the Diegueño which I read earlier. They might move as much as half a dozen times in the course of the year, living successively at different localities, exploiting the food which was in season, and moving on to the next point when that food supply was exhausted or the next food resource which became available encouraged them to do so.

Q. Doctor, have you any other observations on this subject of the home range idea?

A. Only this, that the economic radius or home range idea is a sound basic concept. But it must not be unduly emphasized, because it is modified by variable factors, especially seasonal shifts within group-owned territory and by special expeditions beyond the one-day trip and return radius when people are looking for special items.

Q. Then, Doctor, do you think the distinction between unused areas and unoccupied areas is important in establishing the extent of land used, occupied, and possessed by the Indians of California?

A. Yes, I do think that such a distinction is important. It would be incorrect, I believe, to equate the words "unused" and "unoccupied," because an area is not lived in the year round. In other words, that it does not hold permanent villages, does not mean that it was not visited and camped in and gathered and hunted over during a portion of the year.

In other words, the occupation of an area may be general or sporadic.

Q. Doctor, do you know of any sizable areas in California which were not used by the Indian?

A. No, and I have testified to this effect before, I do not know of any sizable areas which were not used by Indians. And I might illustrate this point by referring to Plate 37, which is a map entitled "Territory and Villages of the Maidu and Miwok," which is printed in Exhibit RH-50, Dr. Kroeber's *Handbook of the Indians of California*, opposite page 446. On that map are plotted 72 Maidu and 109 Miwok villages.

Their actual and precise location is shown on that map, and the name of the village is given on a nearby page in text. These are permanent named villages, most of which lie below 4000 feet above sea level.

If we draw circles with a 10-mile diameter with each village site as a nucleus, almost the entire area below 4000 feet would be included in the home range of one or another of these villages. Above 4000 feet, if we use archaeological sites, although it is admitted that the archaeological survey is not complete, but in my opinion, above 4000 feet, using the same method, one would find a great portion of the area also covered. The higher slopes of the Sierra, up to the crest, which may range from six to nine or ten thousand feet, shows abundant record of archaeological sites which are interpreted as evidence of seasonal camp sites used in the period between the late spring and the early fall.

In three areas of the higher Sierra, the Archaeological Survey of the University of California has conducted a search for archaeological sites and has studied these sites in an effort to learn something of the nature of Indian occupation and use.

The first of these studies to which I refer has already been submitted in evidence as Defendant's [Plaintiff's] Exhibit RH-130, and it concerns parts of four Sierra counties: Nevada, Placer, Eldorado, and Alpine.

Here in the area estimated to comprise about 300 square miles and which was not very intensively looked over were found 25 archaeo-

logical sites lying between the elevations of 5500 and 7800 feet above sea level. Some of these are very large sites. That is, they cover a wide expanse of terrain, and some of them have actual depth of deposit, showing that they must have been lived on year after year, or at any rate for a considerable period of time.

The details, as I say, are contained in the exhibit.

The second study to which I refer of reconnaissance of the high Sierra was published by Dr. Meighan of the University of California at Los Angeles, and concerns five selected areas in Mono County east of the crest of the Sierra. That has not, I believe been submitted in evidence.

Q. No, I have it here, Doctor.

I would like to introduce as Plaintiff's Exhibit RH-184, Reports of the University of California Archaeological Survey No. 28, papers on California Archaeology 27-29, issued January 1, 1955.

MR. BARNEY: No objection.

COMMISSIONER O'MARR: Admitted.

MR. FOSTER: Q. Will you go on, please, Doctor.

A. I will briefly abstract the observations of Dr. Meighan with reference to his five selected areas for intensive survey.

The first of his areas he calls Chidago Canyon. He gives that an elevation of 4400 feet above sea level, and in it he found, in 7 square miles, 36 archaeological sites which consist of house rings, or what may alternatively be hunting blinds, camp sites on the surface and cave living or camping sites.

It is my opinion that these are late prehistoric or from the period of time immediately before the opening of the historic period at about the middle of the last century, and that these sites were spots where hunting and gathering parties camped.

His second area is the Benton range, which ranges in elevation from 5500 to 9000 feet above sea level, and in 16 square miles he and

his associates located 130 archaeological sites which were situated along creeks, in the mountain passes, and, in his words, "on bare mountain tops." Most of these are small sites. One of them was an obsidian quarry from which the Indians collected volcanic glass to make implements.

His third intensive area he called Crooked Meadow, and says simply that it occurs at an elevation of over 9000 feet above sea level. 9000 feet is a rough measure of timberline in California. Here in five square miles he found five sites which were temporary camps, presumably, in his opinion hunting stations where people camped while they were hunting animals.

His fourth area is the East Walker River, ranging in elevation from 6100 to 7500 feet above sea level. Here in 12 square miles he found 109 archaeological sites; and in his fifth area, the northern Owens River, whose altitude he gives as 6900 feet, in three square miles he located 13 sites.

Now, I cite this, these data, to illustrate the fact that at least here and in my opinion elsewhere at comparable altitudes through the Sierra, there are numerous archaeological sites.

One other study, the third of the three which I have mentioned—

MR. FOSTER: Q. Pardon me. Do you mean archaeological sites that the Indians of California occupied?

A. Yes, sir.

The third area studied was Yosemite National Park. This work was done by Mr. James Bennyhoff, attached to the Archaeological Survey. The work was done under the terms of a contract between the Federal Government, the National Park Service, and the University of California.

These data are not yet published, and a photostat of the relevant data has been prepared as an exhibit which has not yet been offered.

MR. FOSTER: At this time, if the Commission please, I would like to offer this as Plaintiffs' Exhibit RH No. 185, an appraisal of the archaeological resources of Yosemite National Park by James A. Bennyhoff, archaeologist, University of California Archaeological Survey, data collected in July 1952, September 1953, and August 1954.

MR. BARNEY: Let me just ask the witness a question or two about this particular exhibit. I didn't quite understand what you said. You said first it has not been published?

THE WITNESS: Yes, that's correct.

MR. BARNEY: Now, who prepared this particular monograph, Dr. Heizer?

THE WITNESS: Mr. James Bennyhoff, who is attached to the Archaeological Survey.

MR. BARNEY: Was it prepared for use in connection with this case?

THE WITNESS: No. It is prepared at the request of the Federal Government, who approved the archaeological survey, asking that an appraisal of the archaeological resource of Yosemite National Park be conducted for the Federal Government.

MR. BARNEY: I understood that. All I am asking is, it is this part of the report, even though it has not been published as of this minute—

THE WITNESS: This is an abstract of his report which will be submitted to the National Park Service without the change of a single word.

MR. BARNEY: That is all I wanted to know. No objection.

COMMISSIONER O'MARR: Admitted.

MR. FOSTER: Q. Proceed.

A. There is attached to the exhibit a map which indicates the area surveyed by [for] archaeological sites. I did not, and Mr. Bennyhoff did not, compute the number of square miles or square acres or linear stream miles which he surveyed. That is, I cannot give you those figures.

However, the tables show that from the

elevation of 1600 feet to about 11,000 feet above sea level, over 300 archaeological sites were located. Between 3500 and 10,700 feet above sea level, 328 archaeological sites which fall into various classifications as indicated and described in the exhibit were located.

Thirty-six of these archaeological sites lay at elevations above 9500 feet above sea level, and within the boreal zone there were found 201 archaeological sites, and in fact some of the largest sites were in the confines of what is now Yosemite National Park, lay in the boreal zone at an elevation of over 9000 feet—although the boreal zone, if I am not incorrect, begins about 6000.

In addition and as a fact of interest, Dr. C. Hart Merriam, who made a particular study of the Indians of Yosemite National Park, located and published in the Sierra Club Bulletin some years ago a list of 36 historic Miwok village sites within Yosemite Valley proper. That is the nucleus of the recreation area, and I say this is of interest because Mr. Bennyhoff and his colleagues were able to find archaeological evidence of 27 of those 36 archaeological sites.

It appears from these three cases as evidenced in Exhibits RH-130, -184, and -185, that the higher elevations of the Sierra, which are classed as areas of little or no use by the defendant, were in fact much used by Indians.

I submit that these are only samples, but wherever extensive and intensive surveys have been conducted, the story has been the same.

How important such seasonal visits were to the Indians, that is, in the sense of how important they were in the life of the Indians, I cannot tell you. I do not know, but the large size and what seems to be to me the rather high number of sites indicates that the transition and the boreal zones were somewhat more than casually exploited by the Indians of California.

MR. FOSTER: You may cross-examine.

CROSS EXAMINATION

BY MR. [RALPH] BARNEY:

Q. Before we leave this issue and while it is fresh in everybody's mind, you referred to Exhibit RH-130, and I was able to put down your figures accurately as you gave them, Professor, I got these figures. If I am incorrect, please correct me. I believe you stated, and frankly, I don't remember which area you were talking about, but I believe you said within an area of 300 square miles—

A. Estimated area.

Q. —estimated area of 300 square miles there were 25 sites found; is that correct?

A. Yes, We found 25 sites.

Q. An estimated 300 square miles would give 7860 acres, wouldn't it, at 640 acres to a square mile?

A. I will accept your figures.

Q. So you found one site to each 12 square miles?

A. That's approximately correct.

Q. Now, let's take Mr. Bennyhoff—which I have had no occasion to look at, but fortunately it kind of flipped open to page 22. Let me start at page 21 at the bottom:

“A minimum of five scattered obsidian flakes, and artifacts, a mortar rock or pictograph was acquired [required] before a site was recorded with a UCAS number. In this region of intensive surface collecting for over half a century combined with the frequent surface cover of leaves and needles, it was felt that five obsidian flakes was not too small a requirement for the definition of a site.”

Is that the basis upon which Mr. Bennyhoff got at least some of the 300 sites that you referred to, on the basis of as few as five obsidian flakes?

A. Yes, sir. If you will read—I know you have read this—if you will read the rest, you will see what he classes as large sites and which are, I believe, in the majority, are surface areas in excess of 1500 square yards. He is going by area.

The point Mr. Bennyhoff is making here—

and I would support him in this, although he did not consult me at the time; this is his own opinion which I would support—is that in the valley area which is visited by something in the neighborhood of one million citizens per year, practically everything in the nature of Indian artifacts—a piece of black, shiny obsidian has been picked up. I would say that originally before the swarm of tourists ran over Yosemite Park, that each of those sites contained on the surface, a rather greater evidence of Indian—the presence of Indians.

Q. Are you suggesting that there are today even swarms of tourists in the high altitudes of the Yosemite?

A. No, sir. You see, the archaeological material on the higher sites is more numerous.

Q. What, if you can tell—I can't—what area is Mr. Bennyhoff talking about on pages 21 and 22, because I want to ask you some more questions about it?

A. He is talking about the valley area.

Q. Can you point out to the Commissioner on any one of the maps there convenient to you?

A. Can I what?

Q. The valley area that you say Bennyhoff is talking about.

A. By "valley area" I mean the valley floor, the floor of the valley.

Q. Will you point it out?

A. The valley floor doesn't show on that map.

Q. What group of Indians lived in the area that Mr. Bennyhoff is talking about, or did live in it?

A. Southern Sierra Miwok. They still live there.

Q. Would the valley floor correspond approximately to the yellow area on Defendant's Exhibit 157?

A. I have not even looked at this map before.

Q. Maybe the life zone map would help you better.

A. The Yosemite Park area is such—I am not trying to avoid answering your question—but trying to answer it. The Yosemite National Park area, which includes an area surrounding the valley itself, contains three life zones—upper Sonoran, transition, and boreal. The valley, I believe, if I am not incorrect, is in the upper Sonoran.

Q. And that is what you say Mr. Bennyhoff is talking about on pages 21 and 22 of the Plaintiffs' Exhibit RH-185?

A. Yes, sir, I think that is so.

Q. You will observe there that on page 22 he refers to grinding of acorns.

A. Yes, sir.

Q. Those acorn would come from the woodland grass association, would they not, that we have been talking about, Dr. Heizer?

A. Yes, sir, they would. May I add something?

Q. Go ahead.

A. Indian ethnographic data, and the archaeological evidence of mortar holes used for grinding acorn which occur at elevations in many instances several thousand feet above the nearest acorns, those two observations, ethnographic and archaeological, combined indicate the truth of the Indian statement that when they went up into the higher zones they carried with them baskets of acorns which they used as supplementary food.

Q. Now, what did the Indians use the boreal zone for? What food or what purpose did they occupy the boreal zone for? I am not talking about Bennyhoff now. I am just asking you what you think they used the boreal zone for.

A. Yes, sir. For hunting mountain sheep. There was apparently some fishing, and there are plant foods which are listed as having been Indian foods at that altitude.

Q. Now, are you still talking about the Yosemite Valley area?

A. I am talking about the Yosemite National Park area at higher elevations within

the boreal zone.

Q. The plant foods that you refer to would not be available to the Indians when the snows were covering the ground, would they?

A. No, sir, they would not.

Q. And when would snows cover the higher elevations in Yosemite National Park?

A. Well, the fact of snowfall, the advent of the first snow, and so on, is contained in this report. I believe it is in October, generally in October.

Q. Getting away specifically from the Yosemite, of what use generally would the boreal zone of California be to Indians?

A. It would be a place where they would go in the favorable season, by which I indicated broadly the summer, to hunt, to fish, to collect wild food plants that were available.

COMMISSIONER O'MARR: Maybe we had better change reporters at this time.

(Recess.)

Q. I asked you, Professor Heizer, what they would use the boreal zone for and you said to hunt, to fish and collect such wild food plants as were available. What wild food plants as were available. What wild food plants would be available in the boreal zone?

A. Are you referring to the Yosemite Park region?

Q. No. We are talking about the boreal zone generally.

A. If I might be allowed to refer to page 31 of Exhibit 185, there is a list there of plant foods within the boreal zone which includes juniper berries, sugar pine, pine nuts—

Q. Where is that?

A. Excuse me. The last paragraph on page 31.

Q. Go ahead.

A. They are there listed.

Q. Go ahead.

A. Well, do you want me to recite those, sir?

Q. Well, that is what you have reference to?

A. Yes, sir. I might add, if I may that I think these boreal sites were primarily occupied by hunting parties.

Q. You notice the third line of that paragraph? Or let's read the whole paragraph.

The remaining camp sites much [must] have been associated primarily with hunting because the number of useful plants at these elevations is extremely limited and fish are not available.

A. Yes, sir.

Q. To what extent would you say, as an anthropologist, that the Indians of California utilized the boreal zone for subsistence?

A. Well, Mr. Barney, I can't give you facts and figures. I will try and give you my honest impression or opinion.

Q. Go ahead.

A. I said, I think earlier today, that I did not know how important the boreal zone was to the Indians. And by that I meant I do not know how important those summer trips figure into the total life pattern of the Indians. That is what I meant by saying how important it is.

May I continue a moment?

Q. Go ahead.

A. I believe that there is some likelihood that valley Indians went to the boreal zone where they could make a living by importing some foods, by carrying some foods with them, such as acorns as a staple and augmenting what they carried with them by these limited plant foods which were available and by hunting which, however, was fairly good at those high altitudes. The deer, mountain sheep, rabbits do range through that country and can be collected. And I suspect that lots of Indians went up to those altitudes for the same reason that some of us go to Lake Tahoe or to the High Sierra in the summertime. I think one motivation may have been a change of scene, a pleasant alteration of the common life pattern. So that when you ask me how important that

was I am giving you a guess. I don't know.

Q. But you are suggesting to the Commission that because an Indian may have gone to the higher altitudes of the Sierra or the coast region, any place within the boreal zone now, for a change of scenery, that that was "owned by him, occupied by him" and that on the basis of his going up there for a change of scenery he ought to be paid for it?

A. I am not suggesting that because that is a conclusion which—that is going to be the decision in this case. If I could put it in my words I would say that the fact that the Indians went to the boreal zone, lived there, used the area for subsistence—and by live there I mean occupied seasonally, not through the whole course of the year—that to my mind is consistent with the general proposition which the plaintiffs have made that this is evidence of use and occupancy. Now, did you inquire as to whether this was evidence of possession?

Q. I think you said it was earlier in your testimony.

A. I mean in reference to this particular question which you have just asked me?

Q. Yes. I used the term.

A. Would you mind if I asked to have that read over?

Q. No. Read the question.

A. I don't want to talk about it if you didn't ask me about it.

(Record read).

THE WITNESS: I believe I have answered your question.

MR. BARNEY: Q. So it was occupied by him then.

A. Yes, sir. I say that that area was occupied.

Q. I noticed in the paper a day or so ago, or at least since this hearing has been on that the first snow fell in the high Sierra. Did you notice that?

A. Yes.

Did you read the snowfall?

Q. No, I didn't.

A. Excuse me. I'm not asking you questions.

Q. This, from now on, is the season of snowfall in the high Sierra, is it not?

A. Yes, sir.

Q. How long would the snows continue? I mean until when?

A. The snow, this first snow—it snowed on the 4th of July at Lake Tahoe. It snowed a few days ago, last week. That snow is gone. It amounted to a half an inch or a very minor bit, a light snowfall which has since been burned off by the sun. But in October likely, or at any rate by November, possibly not until Thanksgiving, there will be enough snow to impede foot travel and drive the deer from the higher altitudes. Let us say October to November. Then the advent of spring and warm weather will pretty much or effectively clear the Sierra, and I include here most of the boreal zone, which is available for hunting and so on, by April or May.

Q. So then we have a period roughly from Thanksgiving to the middle of April or the middle of May where snows would be heavy and the area would be inaccessible?

A. Yes. During which time I believe Indians would not be occupying the boreal zone and the presence of Indians which can be documented in such accounts as Fremont, for a party traveling through the Sierra, that would be about the extent of Indian utilization of that territory, using the lower passes in the winter period.

Q. Now, let's take the other period. That is from the middle of April or middle of May until the following Thanksgiving day. To what extent in your opinion would the Indians of California use the boreal zone and to which extent would they occupy it?

A. Could I ask you to be more precise as to what you mean by extent? Do you mean how many Indians?

Q. How many Indians, what would they use it for, what would they get?

A. I can't tell you how many Indians. A sizable proportion, according to information known to me, of the Washoe would go into the Tahoe-Truckee region which lies at an elevation of six to seven thousand feet, perhaps a little higher, in the summer-time. Half or—I am guessing here—or estimating on the basis of what I know—half or more, slightly more perhaps, of the Washoe people.

For the Miwok, the hill or Sierra Miwok, most of whose permanent homes, that is, home villages lay below 4000 or 4500 feet, a very sizable contingent of those people would move up into the Sierra, into the upper transition and boreal zones in the summertime to hunt and to fish and to collect.

Q. Dr. Heizer, will you step here to this life zone map just a moment? Referring to the Sierra, you mentioned the Miwok. Are you saying that southern Sierra Miwok people who lived in the upper Sonoran zone, the area colored in yellow, went up into the boreal zone?

A. I am saying that some of them did, yes sir.

Q. How many tribelet areas would they have to go through to get up there? I am assuming that there were Indians living on the edge of what is here indicated as northern valley Yokuts as distinguished from southern Sierra Miwok?

A. If I interpret your question correctly you're asking me if southern Sierra Miwok moved up through the transition into the boreal zone or into the transition and boreal zones, would they have had to cross tribelet boundaries?

Q. Yes.

A. Yes, sir, they would. I think on occasion in some instances. But I qualify that answer by saying in some instances, because it turns out—and this evidence has already been presented in some detail here in the earlier hearing of last year—many of these upper elevation tribelet territories extended up into,

traverse, the transition and included the boreal zones.

Q. Can you give us that exhibit?

A. I believe it was Dr. Kroeber who testified to that and I am unable at the instant to tell you the title or the number of the Plaintiff's exhibit.

Q. Well, now, let's see if we understand each other. You're saying that the individual tribelets of the southern Sierra Miwok, the area of the individual tribelets in some instances extended through the upper Sonoran, the transitional and into the boreal zone?

A. I do not say that precisely and I am not trying to quibble. I think at the lowest elevations the tribelet areas might have been self-contained within the lower Sonoran, but in the upper elevations, in many instances, they did transcend the next succeeding life zone.

Q. You changed my question completely.

I asked you to assume that there were tribelet Indians or Indians of a tribelet living at or about the junction of the area which is shown in Defendant's Exhibit 158 as northern valley Yokuts and southern Sierra Miwok. I asked you if any of those tribelets, those tribelet Indians, would go up into the boreal zone. I understand you to say yes.

A. Yes, sir. I repeat that.

Q. Then my next question was, would they not have to cross and enter into the territory of other tribelets, tribelets not of their own, in order to get to the boreal zone?

A. Yes, sir. In that instance they would. And I don't think it is so theoretical or hypothetical. I think that is actually what did happen.

Q. You have heard a lot of testimony, have you not, that these tribes were, that the area of each tribelet was carefully guarded, that trespassers were repulsed? You yourself in this hearing have referred to cairns that were erected in order to protect these tribal boundaries, tribelet boundaries.

A. To mark the tribelet boundaries.

Q. Are you saying then that these tribelet boundaries didn't really amount to anything?

A. No, sir. I am not saying that at all. This question is important to you and I can answer it. But I will preface my answer by saying it has already been answered, that the testimony is in the transcript. I would like to answer the question. I only wanted to say that.

This in a general way is the situation. Carefully delineated tribelet boundaries did exist in the consciousness of the tribelet members. Now, within the same linguistic groups members of outside tribelets who were on friendly relations with members of another exist in the consciousness of the inhabitants or in the consciousness of the tribelet members. Now, within the same linguistic groups members of outside tribelets who were on friendly relations with members of another tribelet, could pass through the territory of another tribelet, the second tribelet, provided they announced their peaceful intentions and were only asking for a clearance so to speak.

As I have said, the evidence of that and the testimony to that effect has been stated by the mere fact of tribelet boundaries and the additional fact of the defense against the trespasser. That does not mean that no one ever crossed the tribelet boundaries for friendly purposes. But I think when the tribelet boundary was crossed, and I have this opinion on the basis of the ethnographic evidence that whoever crossed that boundary, be it an individual, a hunting party, a bunch of people bent on trade or something of that sort, they announced their coming and were careful to indicate that they were coming, and to get as I have said, clearance.

Q. Are you saying that the inhabitants of one tribelet, in this instance living in the upper Sonoran were free to exploit the resources of another tribelet up in the boreal zone?

A. I will have to refer now back to something which I said earlier about three or four minutes ago. I said that in some instances

the tribelet territories ran across several of these zones. But that is not always the case. In some instances the upper elevations were free territory for the tribelets at lower elevations.

Q. What illustration can you give us of that, can you name one?

A. I will make a guess. I am remembering back a year. I believe that Dr. Beals' Nisenan report would support that. I do not pick that specifically, I pick that as one of several exhibits which I think support that contention.

If I am incorrect in my recollection of that I could supply it if I had a chance to refresh my memory.

Q. I am not questioning that. I don't remember. But let me understand this free territory. Would you say that again? What was free territory, Dr. Heizer?

A. Much of the higher elevations, territories owned by or controlled and defended by groups at lower elevations were felt as owned, but were not cut up into individually-owned sections. It was owned, so to speak, in the sense that this was open territory for the general group. Let us say the Nisenan comprised tribelets or the southern Sierra Miwok—I am perhaps not making myself clear.

Q. Are you saying that there is a territory which was free to all members of a linguistic group, and we will use Nisenan whether it is applicable or not, because you used it, are you saying that there was territory which was free to all members of a linguistic group that is not strictly the territory of a particular tribelet?

A. So far as is known, it is not owned specifically by a tribelet.

Q. That is what you are saying?

A. That is what I am saying.

Q. Where would such conditions exist? Among what linguistic groups would such conditions exist, Dr. Heizer?

A. Well, I gave you the example of the Nisenan.

Q. Can you give us another one?

A. I believe that is true of the Sierra Miwok.

Q. Excuse me just a moment. Just so we get the names straight. We have on this map northern Sierra Miwok, southern Sierra Miwok. Are you including both northern and southern Sierra Miwok?

A. Yes.

Q. I just want to get the terminology straight. Go ahead. Any others?

A. Well, those occur to me as examples.

Q. Have the tribelet territories ever been in the northern Sierra Miwok or southern Sierra Miwok as indicated by Dr. Kroeber's map, ALK-1, have those tribelets ever been attempted to be bounded that you know of?

A. Yes. In part. Some of that has been worked out. Dr. Kroeber in some of that work has reported that, some of the evidence of that, in his Patwin, his monograph on Patwin. C. Hart Merriam, although he couched the thing in rather flowery language did that for some of the Sierra Miwok.

Q. Would you step to any one of the maps that are available to you, all of which have superimposed on them these linguistic boundaries as shown in Dr. Kroeber's map, ALK-1 and indicate by some convenient description that portion of the area of the northern or southern Sierra Miwok which in your opinion was free territory, that is free to any tribelet within the northern Sierra Miwok or the southern Sierra Miwok?

A. If I may I would like to see the report on the Nisenan. Would that be possible to see the exhibit?

Q. Surely.

A. This is pretty inexact and I don't want to be taken too literally on this. But above 4,000 to 4500 feet in Nisenan or southern Maidu territory roughly in this area, that is territory which is open insofar as my recollection of the data go. I may not be correct on this since I am using it as an example. Open to the general Nisenan who would defend that

territory against the incursions, for example of Washoe from the east or Miwok to the south.

Q. Who owned the territory in the sense that you are using ownership?

A. That territory is owned—well, it is owned collectively by the Nisenan.

Q. Are you now saying, Dr. Heizer that this linguistic group known as the Nisenan-Maidu and indicated on Dr. Kroeber's map is a territorial owning unit?

A. It is in this sense, I think, provided my example is right.

Q. In what sense?

A. In the sense of ownership of that high country.

Q. Haven't you heretofore testified and hasn't Dr. Kroeber testified that these linguistic groups are not land-owning units?

A. Well, this is a linguistic group but it is also something besides that. It is an aggregate of tribelets.

Q. And you are saying, if I understand you correctly, that the Nisenan as a linguistic group owned this free country up in the boreal area?

A. Yes. This is the effect.

Q. Can you give us any other examples of that type of what you call ownership by a linguistic group?

A. If I could have a minute to look it up.

Q. Yes, sir.

A. I can't seem to find any in my notes, any concrete examples to cite for you.

The alternative type of ownership is exemplified by the Owens Valley Paiute who owned these strips which ran up, that is, they owned valley, lower mountain, and high mountain strips, as shown in the map in the report on the Owens Valley Paiute.

Q. Well, I wanted to go back for a moment to your testimony concerning RH-130 and particularly to the reference of the 25 sites found in approximately 300 square miles.

What was the elevation of that again, Dr. Heizer, do you remember?

A. The elevation ranges for those sites, I

believe, if my memory serves me—

Q. Approximately.

A. I can look it up. Up to 7500 feet, and as low as 5500 feet.

Q. I wish you would tell us what food resources the Indians got in those elevations and in that area that you refer to and what your authority for the statement is?

A. Those Indians ate fish.

Q. That they got in this elevation now?

A. That is true, sir. In the upper American and the Lake Tahoe and in the streams which run into Lake Tahoe. Fishing was extremely important. This is in, it so happens, the Washoe territory.

Q. Wait a minute. Excuse me. Are you talking about the area referred to in RH-130?

A. I am, sir. This is a map in the exhibit. They ate wild sunflower seeds. A wider variety of seeds whose names and species I don't remember offhand. They hunted deer; groundhog, woodchucks, rabbits were important. As a matter of fact, the economy as suggested in there and the evidence for these statements can be found in the culture element distributions lists which concerns the Washoe [and] in R. H. Lowie's monograph called, I believe, "Notes on the Washoe Indians." Perhaps it is called "Washoe Ethnography" and this has also been detailed to me by living Washoe Indians.

Q. Can you indicate on Plaintiff's Exhibit RH-130 the area of these 25 sites within the 300 mile range: Are those the sites that are indicated on that map?

A. Yes, sir.

Q. Now, that is roughly the Washoe area is it not?

A. It is. It is largely included in the Washoe territory.

Q. Is any of this free territory up in this country?

A. I'm afraid I don't know the answer to that, sir. I could say [something] about these 25 sites if I may.

Q. Go right ahead.

A. They represent an absolute minimum since that is a hasty or at any rate a rapid non-intensive reconnaissance for sites. It was intended to be only sampling.

Q. You and Mr. Alsalcher [Elsasser] made this?

A. That is correct.

Q. From your knowledge again from making these excavations, are you prepared to say to the Commission that these sites were occupied all at one time, the twenty-five?

A. No, sir. That is certainly not the case with reference to the exhibit, to the sites shown in Exhibit 130. Those sites fall into two classes, each of which produces a different complex aggregate of implements. The two complexes are separable not only as to content but as to time, one of these being earlier. But one of them being with as much definiteness as I think can be done using our theological [ethnological] data and—using our theological [ethnological] data can be tied to a specific living ethnic group, in this particular instance the Washoe. I did not mean to imply, nor did I say, that all of those twenty-five sites were occupied by the same people or at the same time. In fact I can't even recall how many are Kings Beach complex sites and how many are Martis Valley [complex] sites, although that information is contained in there.

Q. That would indicate the time area of the various sites, the time within which those various sites were occupied?

A. Yes. They fall into two apparently exclusive time periods.

Q. Now earlier to your testimony you referred to Plaintiff's Exhibit RH-89, and I am not too sure which one of the attorneys for the plaintiff called the attention of one of the Government's witnesses to the fact that he had referred to pages which were not offered in evidence, which was all right, but I might suggest, Dr. Heizer, that you referred to Pages 184 to 187 of Plaintiff's Exhibit RH-89, and Pages, 185, '86 and '87 are not in evidence.

A. If I may say so, it is my impression—and the Court Reporter can check me on this—if I did not, I intended to refer to Page 183. Is that page in evidence?

Q. You gave 184 and 187 as I wrote it down. 183 is also here.

A. I won't differ with you. It was my error if I did. I correct thereby.

Q. I want to refer to Page 184 for this question and that is here. This refers to the Wappo Indians, does it not?

A. Yes, sir.

Q. The Wappo are an inland group, are they not, Dr. Heizer?

A. Yes. They are one of the ethnic groups of California.

Q. Page 184 refers to the fact, and you also refer to the fact in your testimony that they used saltwater products?

A. Yes, sir.

Q. Where did they get them?

A. They got them from the ocean, to which they went on occasion. I think they went annually, perhaps, or perhaps sometimes twice a year. Do you want me to tell you how they got there? I think they asked permission of the Pomo to pass through their territory, or Coast Miwok.

Q. The fact that they used these saltwater products in their diet and that they got them from the ocean, does that indicate to you that they had such occupancy of any of the ocean or the ocean shore?

A. No, sir.

Q. Then the mere fact that they used saltwater products is not evidence of use or occupancy of the Wappo area, is it?

A. That is correct, in my opinion.

Q. How many other illustrations of that type of use of products do we have which indicate that they were not obtained from the territory of the particular ethnic group, would you say?

A. There is a great deal of evidence of that and I have in mind now and specifically a fairly

detailed report on Indian trade and trails in California, the author of which was L.L. Sample. I cannot give you the exhibit number. Published, I believe, in 1950, in which Miss Sample made an effort to collect and synthesize and present all of the known data, or at any rate readily accessible data, on where trade items came from, the direction and the trails over which those items were carried. That would be an example of what you have asked for.

On the other hand, I am not intending to be oblique about your question, if you are asking me if there are other instances of interior groups going to the coast, my answer to that is yes.

Q. Is that in your opinion evidence of use and occupancy of the area between their, let's call it, home territory, and where they went?

A. No, sir. And I will give you my reason for that.

I believe that what evidence we have indicates that when an interior group passed through the territory of a coastal group to the shore, they asked permission or crossed so to speak at their own risk and were ready to defend themselves. If friendly relations obtained, they would ask permission to cross. In other words, serve notification that an expedition or party wanted to go to the coast. The owners of the territory to be crossed would grant permission or perhaps might not, if there were some friction or difficulties that had come up between the coast Miwok and the Wappo. The coast Miwok would say "We have had trouble with you, we don't trust you, we don't want you in our territory. And if we catch you here we will shoot you."

Q. Suppose the Wappo went anyhow, would that be evidence of a right or ownership?

A. No, sir. That would not be. But when they crossed that boundary, when they crossed the line, they would consciously be carrying on an act of aggression. They would be entering what they, themselves, admitted to be the

territory of another group and doing it at their own risk.

Q. You say when they crossed that boundary. That brings us back to this question of boundary.

A. Are you telling this Commission as an anthropologist that the lines on Dr. Kroeber's ALK-1 are the exact boundaries of these areas, of various ethnic groups which have been listed?

A. I believe that that map has been partly amended by Dr. Kroeber. But my answer to that question is yes insofar as it is possible to represent on a map information acquired from Indians.

Q. That is the whole answer, isn't it?

A. Insofar as it has been able [possible] to acquire information from Indians?

Yes, sir. Or from other documentary records, not all of which comes from Indians.

Q. I will ask you if it isn't a fact, and I am asking you as an anthropologist, if many of the lines which have been drawn on Dr. Kroeber's 1954 map, ALK-1, or the 1955 map, ALK-1955-1, are merely the best approximations which anthropologists have been able to make by piecing together the data which you have been able to acquire over a period of 50 years?

A. Well, I would certainly admit that every mile of each line was not specifically pointed out or traced by an Indian, yes, that is true. And several of those lines are—I don't like the word "approximation"—I am not trying to quibble. Those, I think, those are the best or informed guesses by a man with a very considerable, in fact the greatest amount of experience, and I think understanding, of California Indian culture.

Q. I will ask you if you haven't heard Dr. Kroeber testify that in many instances he followed drainage areas in placing his lines?

A. That is certainly true. He did follow drainage areas. In some instances, however, in conformity [with] what Indians told him. In other instances, he perhaps [did] not. I do not

presume to tell you what Dr. Kroeber did.

Q. But you know, as a matter of fact, that that is a customary method of mapping these so-called boundaries is to use the drainage areas, isn't it?

A. No, sir. I would say the customary method insofar as it can be followed is to take the Indian testimony and to represent that, to translate that, on the map.

Q. Now insofar as it can be followed—the testimony here is, as I recall it, that there are approximately one hundred of these divisions. Where would your judgment be as an anthropologist as to the number, where these lines have been drawn, these lines representing boundaries have been drawn, as a result of first-hand information given by Indians, and how much have been drawn in through use of deduction, the use of drainage systems? In other words, on information that had to be deduced from other sources?

A. Well now, I have not read everything that has been written on California Indians, but I have read a lot of it. And on the basis of the published record I would say that with the possible exception—I would like to have you ask Dr. Kroeber himself this, because I do not want to give his opinion—with the possible exception of portions of the desert section of California that by far the larger part of those lines are drawn on the basis of direct Indian statements and testimony.

Q. Just to use this as an illustration—and I am not asking you to say unless you are able to say specifically—I want to call your attention, Professor Heizer, to the area shown on this map as Western Mono and Owens Valley Paiute where the dividing line appears to run down through the boreal zone for almost its entire length. Is it your judgment that some Indian was able to—is it your opinion that some Indian, or Indians were able to give any anthropologist—I don't care who, a sufficiently accurate description of the territory of the Owens Valley Paiute in that boreal zone

and the western Mono so that anybody can say with any degree of accuracy whatsoever, "This is the boundary line between the Owens Valley Paiute and this is the boundary line between the western Mono?"

A. I believe that if I had access to some exhibits, Kroeber's *Handbook* and the notes upon which the chapter on what he calls western Mono, or what are now called Monachi, were based upon, Gayton's Yokuts, and had recourse to Julian Steward's Owens Valley Paiute—that in each of those, at any rate two out of three of those, would be found a statement not attributed, that is parenthetically true, to a particular Indian, but to a statement which is, I believe—would be based upon Indian testimony. At least that would be the assumption that western Mono territory extended eastward to the crest of the Sierras and that Steward would say the western line of Owens Valley Paiute territory was the crest of the Sierras.

Now when those statements are made, the presumption is that that is based upon Indian testimony, although as I say, in each such statement, some ethnologists do it. Mr. Gifford often does it, but some ethnologists actually tell what informant said what.

In other words I believe that that line which follows the hydrographic line, the crest, the drainage crest of the Sierras, is based upon Indian testimony.

Q. And you have named what you felt were the sources from which that information came. Would you name them for me one at a time?

A. Steward, Julian Steward, "Owens Valley Paiute."

Q. Written when, approximately?

A. 1929.

Q. Who was the next one?

A. Gayton's "Yokuts and Western Mono."

Q. When was that written?

A. That work was done in the 1920's and '30's and published more recently.

Q. What was the next one that you mentioned?

A. I mentioned Kroeber's *Handbook*.

Q. Other than that—I will get to that in just a second.

A. Those three I mentioned.

Q. The two that you have mentioned are long after Kroeber both wrote and published his *Handbook*, aren't they?

A. Yes, that is true.

Q. The testimony here is that Dr. Kroeber wrote his *Handbook*, finished it in about 1917, that there was a lapse of five years, and published in the Smithsonian in '23.

A. Published in '25.

Q. So that none of the data that Gayton got and Steward got could possibly have gotten in Kroeber's handbook on which Kroeber could have based his line?

A. I believe that—in other words, the two sets of testimony are Indian.

Q. So we don't know then and you don't know, I presume, on what Dr. Kroeber based his line?

A. I am sorry, I do not.

Q. Well, let's talk about ecology for a few minutes.

You said in your judgment that it was not proper to use ecologic approach because, as I recall your testimony, it was too mechanical a process. In other words, it didn't take into consideration all of the various imponderables that go to make up Indian life.

A. That I think is one of the difficulties or problems in using it.

Q. The primary function of the California Indian in aboriginal days was to get a living, wasn't it?

A. Well, could I answer that?

Q. I want you to.

A. There are three basic drives in all animals. One is to survive by getting enough to eat, the other is to search out a mate and reproduce, and the other is to avoid enemies. This is one of those three. It certainly is one of

the fundamental and basic motivations for human activity.

Q. Well, I would suppose, Dr. Heizer, that at least as I read the petition of the plaintiffs, or the amended petition, we are not being sued because the United States prohibited the propagation of the Indian Race, nor have we been sued so far as I know for anything other than the fact that we deprived the Indian of his land.

Now the use of the land to the California Indian was primarily for the purpose of making a living, was it not, subsisting, this basic drive?

A. A living in a larger sense. Not only food.

Q. What else did the California Indian do with the land?

A. They derived from the land, from the production of the land, the materials with which they made their houses, their clothing, their tools, their weapons, their ornaments, paint, food, et cetera, et cetera. The list is long.

Q. Let's include all of that and I had intended to, in the business of making a living. Now every one of the things that you have mentioned, houses, paints, all the rest of them go to make up or are to be found in the various ecologic areas of California, is that right?

A. Yes. They occur variably. Although I don't necessarily mean randomly, but they are widely distributed.

Q. Do you disagree with the idea expressed here primarily by Dr. Beals, but I believe reiterated by every witness who has testified that the upper Sonoran zone indicated on the life zone map in yellow furnished or offered to the California Indians the greatest opportunity for food resources and the other resources which you have referred to? Do you disagree with that?

A. Well, I don't know whether it would—within areas in which the upper Sonoran zone occurs that general proposition, I believe, is true.

Q. Of course we are not talking about an Indian getting a living from the upper Sonoran zone if he didn't live in the upper Sonoran zone. I—

A. I was only trying to be careful.

Q. I don't know how to do any of these catch questions.

The area of the upper Sonoran zone is indicated on the map in yellow. That is the area, is it not, in which oaks are found in greatest abundance?

A. Yes, sir, I believe so.

Q. Oak is for much, if not most of California, the staple or was the staple food of the Indians, is that not right?

A. Yes, sir. That is, it comprises perhaps 50 percent or nearly so. I don't know what. I hesitate to use percent. Let's say often around a half of the diet. Less or more.

Q. Yes, less or more. In some instances much more, would you not say?

A. I am afraid I would not know of any examples of where it comprised much more than 50 percent.

Q. The transitional zone furnishes an area within which a reasonable amount of food products and all of these various things that we have been talking about can be obtained, does it not?

A. Yes, sir.

Q. Would you say that in general the Indians of California tended to live in those areas of California where it was easiest for them to make a living?

A. Yes. Within their own territory.

Within their own territory, yes, sir.

They did live perhaps the larger portion of the year in those areas where living was easiest to make, or, if you will, in those areas which were most productive.

Q. Isn't it true, Dr. Heizer, that an Indian being a rational being would not go any further, and I am still talking about within his territory, away from his normal site of habitation to get something that he could get

right close at hand?

A. No, I can't agree with that, Mr. Barney. That is something we do not agree upon.

Q. All right, let's see why we don't agree or wherein we don't agree.

Let's take any group that lives in the upper Sonoran zone whose major food subsistence is the oak. Would you first agree that he would likely have his habitation in the area where the oaks were most plentiful, most available?

A. In the oak area, yes. This is his main center or nuclear village.

Q. Now he wouldn't be apt to be going around the rest of his territory looking for oaks if he could get them right there?

A. I would not think so if he could get them right there.

Q. These oaks normally grow along stream banks, do they not?

A. No, not necessarily. That is another point on which we will differ.

Q. Let's put it this way: within the area in which oaks do grow, would you agree that that is the area where most game would be liable to be found, small game particularly, for the moment?

A. Are you asking me if the lower Sonoran zone which contains most of the oaks contains most of the game?

Q. No. I am asking you if that portion of the lower Sonoran zone in which the Indian lived closest to the oaks would not also be the area where most of the small game would be found?

A. I think the game occurs, let's say, in and around—in and among the oaks and outside the oaks. I think the game is more widely—it tends to be more widely distributed than the oak.

Q. At least the game can move and the oak can't very well?

A. Right.

Q. But that would be the oak area would also be substantially the game area, or at least there would be a substantial amount of game in

the oak area?

A. I agree to that.

Q. There would also be a substantial amount of other edible food such as grass seeds in the area?

A. Not necessarily. As a rule, no, sir, I don't think so.

Q. What else would be in the same area?

A. Within the oak area?

Q. Yes.

A. Well I am not enough of an ecologist to answer that for you. I might say that there are long published lists of the fauna and flora assemblages which are characteristic of the lower, and upper Sonoran and transitional zones, et cetera.

Q. What I am trying to get at, and I will just ask the question bluntly and let it go at that, are you saying to this Commission that in your judgment as an anthropologist the ecologic zones which furnish the major portion of the subsistence of the various groups of Indians—and by that I mean if we are talking about a desert type, then the area which is—using the Kawaiisu merely as an example—the upper Sonoran portion of the Kawaiisu territory, or if we are using the southern Valley Yokuts, the upper Sonoran area of the southern Valley Yokuts, or any of the others that are of a like character, did not furnish to the Indian the major portion of his subsistence?

A. Well, I gave you my opinion that —Yes, I think the major portion of the subsistence. But I would like to add one other thing: that I think that as far as the total or the use of the total area, referring the Kroeber's ethnic lines, with your reservations—I mean, I am not trying to make you admit anything, but within the ethnic area, the linguistic group areas, if we take the totality of the Indian exploitation of the various zones, whether they be two or three or four within that area, that it would be a closer approximation to say that half of the land use might refer to the best favored life

zone, and the other half—and I include here not only food but the multitude of other items gathered and these purposes for which people moved, etcetera, [sic] would constitute, I believe, at least 50 percent, another half. Perhaps I have not made myself clear.

Q. I understood you up until that last business.

A. About half of the best favored area of the total economy and technology. The other half from the rest of the territory.

Q. Well, all you are doing, then, if I understand you correctly, is that you are disagreeing with Beals on percentages?

A. Well, I don't think that Dr. Beals has ever stated it this way, although I will disagree with Dr. Beals on percentages.

Q. Isn't that what you just got through saying? You are saying, if I understand you, you are saying that they got at least half of their subsistence from these other—and these other items from half of the area, and that they got the other half from the rest of their area.

A. I mean from half of the area, but from the better favored portions.

Q. Well,—

A. Yes, I am differing with Dr. Beals on the question of percentages, but it is not simply that. When Dr. Beals says that 53 percent of the vegetation types, by which I presume he also means the territory, 53 percent of the territory of California is of little or no value, there we are certainly going to differ on percentages.

Q. I will come back to that. Just don't leave this for a minute.

May I have Government's Exhibit 175 or 176?

Well, now, let's see. Just merely as an example on Defendant's Exhibit 175, Dr. Beals has estimated that out of a total area for the Tolowa of 670 acres, 122 acres supplied the majority of the resources, or 18 percent.

A. I am confused. You don't mean to tell

me the Tolowa territory includes only 670 acres?

Q. Square miles. I am sorry.

A. I did not mean to interrupt.

Q. That is all right. I misspoke myself.

Now, let's start over again. Out of a total of 670 square miles, 122 square miles, or 18 percent of the total area furnished the majority of the resources.

A. That is the contention of Dr. Beals.

Q. That is his statement. What do you say, again using the Tolowa area, and assuming that the area has been correctly planimetered, what do you say furnished the majority of the food resources? Are you saying 50 percent furnished 50 percent, and the other 50 percent came from the other 50 percent?

A. Well, I have not seen this exhibit before, and I am not trying to be difficult. I do not know whether this 18 percent of the area includes square miles converted from linear beach miles, beach and Smith River miles, for example.

Q. If you will notice the symbol "F" at about the fourth column from the right, that is an indication of linear miles converted to square miles, linear miles of the streams or the ocean usable.

A. You say that. That is not indicated here, is it?

Q. I am just telling you what the testimony is, Dr. Heizer.

A. And you ask if I agree?

Q. No, I asked you, using that as an illustration, what do you tell us now? What do you say?

A. It is my opinion that that figure is not correct, that the Tolowa used in some fashion or other a larger percentage of their territory than 18 percent.

Q. Well, I am trying to find out now, and only as an illustration, what percentage. I understood you to say that in your judgment the Indians of California as a whole got 50 percent of the majority of their food resources

from approximately 50 percent of the area, and that the other 50 percent came from the remainder.

A. No, sir. If you read the record, you will see that you are misquoting me.

Q. I don't mean to. You state it.

A. All right. What I tried to say was this, and I will try to say it more clearly: In answer to a question of yours I gave you the opinion that 50 percent, or half, about half—than generally speaking, about half of the total exploitation in its various aspects of the territory of a group would be outside the best favored vegetation area or whatever area has been selected and commonly referred to by defense witnesses as yielding 90 percent of the food.

The point I had in mind when I said that—and I know I am now here repeating myself—is that I think there are more things than food alone which count in the total Indian economy.

Q. Would those other items other than food change your proportions significantly? In other words, you say—and I have tried to take this as accurately as I could—about one-half of the total exploitation of the territory would be outside the best favored vegetation area. And you said, that, however, included the totality of everything that they got from the land. That is correct, isn't it?

A. Yes. The land's products.

Q. On the basis of food resources would your proportion of one-half be significantly reduced?

A. Yes, I think it would be reduced.

Q. From what portion of the given territory of any given group would you say they got the majority of their food resources?

A. The whole point, Mr. Barney, of my testimony here is that you cannot derive such figures. I would not be able to provide you with an answer. If I could I would.

MR. BARNEY: That is all.

COMMISSIONER O'MARR: Any further questions?

REDIRECT EXAMINATION

BY MR. GORMLEY:

Q. Dr. Heizer, in connection with the cross-examination of Dr. Barney which he has just concluded—

MR. BARNEY: Thank you for the title.

MR. GORMLEY: I think he is entitled to it.

MR. BARNEY: I have been expecting that degree for a long time.

MR. GORMLEY: Q. In connection with his last series of questions where you were talking about your one-half of the total use of the land probably coming off of land other than the most productive may the Commission read your answers to those questions and that answer to that question as in any way being based upon a mental process or a method comparable to what Dr. Beals used?

A. No. I believe that I indicated that—or if I did not, I intended to—that this was simply a device, a common device, in speech, perhaps not in legal testimony but at any rate, it was customary for me to say "about half" or something of the sort. It does not mean 50 percent when I say "about half." It does—in giving my impression I am giving you an offhand guess.

COMMISSIONER O'MARR: I think we understand that.

MR. GORMLEY: No further questions.

COMMISSIONER O'MARR: We will convene at Palo Alto at 7:30.

NOTES

1. Omer C. Stewart. Kroeber and the Indian Claims Commission Cases. Kroeber Anthropological Society Papers No. 25:181-190.

2. The major hearings were: Washington, D.C., December 22, 1949 to February 27, 1950; Berkeley, June 22 to July 6, 1954; San Francisco, June 27 to July 12, 1955, September 7 to September 28, 1955; Washington, January 9 to January 12, 1956.

3. This argument, with supportive data, is contained in Volume I (in 3 volumes) and Volume

VI of the American Indian Ethnohistory series referred to in the text.

4. The consolidated California claims case (Dockets 31, 37, 176, 215, and 333) was concluded in September, 1968, when President Lyndon B. Johnson signed a bill to provide compensation in the amount of \$29,100,000. Taking the land recognized by the Indian Claims Commission as belonging to the Indians of California on March 3, 1853, this figures out to 47 cents per acre. Land prices in the 1850's in the eyes of Congress in 1968 had dropped considerably since 1944. The California Indians Jurisdictional Act (K-334) passed by Congress on May 18, 1928 permitting the Indians of California to sue the federal government in the Court of Claims for compensation for "all claims of whatsoever nature which the tribes or bands of Indians of California may have against the United States" was handled by the Attorney General of the State of California. The decision was favorable to the petitioners, and in 1944 a judgment of \$17,053,941 was allowed. For the lands paid for, the award was based on a value of \$1.25 per acre. The money actually paid the Indians was reduced by \$28,000 for court expenses incurred by the State of

California in handling the suit, and by an additional \$12,029,099 which the federal government had expended in behalf of the Indians of California from 1850 on. The amount actually received by the Indians of California through K-344 was \$5,024,824.

On the earlier claims case see K. M. Johnson, K-344 or the Indians of California vs. the United States. Los Angeles: Dawson's Book Shop, 1966; R. W. Kinney, History and Proposed Settlement, Claims of California Indians. Sacramento: California State Printing Office, 1944.

5. Appendices to Petitioners Supplemental Reply Brief and Objections to Defendant's Supplemental Requested Findings of Fact. Vol. II. Filed May 5, 1959 with the Indian Claims Commission, Docket Nos. 31, 37, 176, 215, and 333 Consolidated (pp. 84-98).

6. The full opinion can be found in American Indian Ethnohistory: California and Basin-Plateau Indians. California Indians, Vol. IV, pp. 402-430. New York and London: Garland Publishing Inc., 1974.

