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AN INVESTIGATION OF THE REASONS FOR THE DIFFERENCES IN THE MEDIAN  
AGES OF INDIANS AND WHITES IN LAKE AND SANDERS COUNTIES WITH  
EMPHASIS ON THE FLATHEAD INDIAN RESERVATION

by

JAMES HAROLD HALL

B.A. St. Augustine's College, 1950

B.D. Nashotah House, 1953

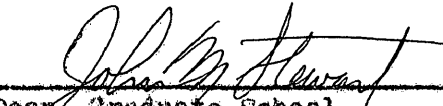
Presented in partial fulfilment of the requirements for the degree of  
Master of Arts

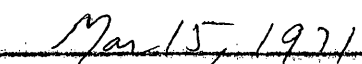
THE UNIVERSITY OF MONTANA

1971

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## CHAPTER I

### DESCRIPTION OF THE PROBLEM

It was noted with but a cursory reading that the 1960 Census presented a situation demanding an explanation. The median ages of whites and non-whites showed a great difference in those Montana counties with large non-white populations. Proceeding on the knowledge that the group making up the non-white population was predominantly American Indian, since the Census Reports showed scarcely any Negroes or Orientals, or none at all, it was my intention to investigate in this thesis reasons for the difference in the median ages.

#### I. THE PROBLEM

In Lake County, where one finds most of the area of the Flathead Indian Reservation, the median age for white males was 32.2, and for white females 33.2, but for non-white males it was 16.7, and for non-white females 16.2. In Sanders County, containing a large portion of the area of the Flathead Reservation, the median age for white males was 34.8, and for white females 31.5, while for non-white males it was 16.8, and for non-white females the median age was 17.7. (Tables I-II, pp. 2-3).

I found the same phenomenon in ten other Montana counties in which Indian reservations were contained wholly or in part, or where there were substantial numbers of Indians. (Table L, p. 107). This same Table shows that in at least two counties, Phillips and Yellowstone, where there were few Indians, the median ages of non-whites are sig-

TABLE I. POPULATION OF LAKE COUNTY BY AGE, RACE, AND SEX, 1960

AGE	1960 POPULATION						
	ALL CLASSES		WHITE		NON-WHITE		
	TOTAL	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
	LAKE						
Under 5 years	1,437	742	695	619	589	125	136
5 to 9 years	1,486	794	692	678	589	116	103
10 to 14 years	1,401	722	679	594	572	128	107
15 to 19 years	1,034	546	488	483	431	63	57
20 to 24 years	521	261	260	219	224	42	36
25 to 29 years	596	293	303	259	271	34	32
30 to 34 years	617	291	326	261	288	30	38
35 to 39 years	702	347	355	300	331	47	24
40 to 44 years	748	374	374	340	339	34	35
45 to 49 years	817	421	396	388	370	33	26
50 to 54 years	709	330	379	305	354	25	25
55 to 59 years	663	329	334	295	313	34	21
60 to 64 years	625	322	303	299	285	23	18
65 to 69 years	634	334	300	312	280	22	20
70 to 74 years	559	301	238	294	220	7	18
75 to 79 years	342	203	139	195	128	8	11
80 to 84 years	151	80	71	75	65	5	6
85 and over	82	34	48	32	42	2	6
Under 18 years	5,091	2,667	2,424	2,255	2,042	412	382
65 and over	1,748	952	796	908	735	44	61
Median age	30.6	30.1	31.1	32.3	33.2	16.7	16.2

Source: U. S. Bureau of the Census 1960, p. 28-54.

TABLE II. POPULATION OF SANDERS COUNTY BY AGE, RACE, AND SEX, 1960

AGE	1960 POPULATION						
	ALL CLASSES		WHITE		NON-WHITE		
	TOTAL	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
	SANDERS						
Under 5 years	728	386	342	352	314	34	28
5 to 9 years	713	349	364	319	394	30	30
10 to 14 years	670	340	330	305	302	35	28
15 to 19 years	521	265	256	247	230	18	26
20 to 24 years	305	151	157	139	145	12	12
25 to 29 years	331	169	162	161	154	8	8
30 to 34 years	403	192	211	181	200	11	11
35 to 39 years	396	212	184	204	172	8	12
40 to 44 years	432	221	211	210	201	11	10
45 to 49 years	429	252	197	219	188	13	9
50 to 54 years	382	204	178	196	172	8	6
55 to 59 years	350	182	168	176	164	6	4
60 to 64 years	305	157	148	147	145	10	3
65 to 69 years	269	148	121	148	118	..	3
70 to 74 years	295	181	114	177	113	4	1
75 to 79 years	204	121	73	129	70	2	3
80 to 84 years	99	62	37	62	33	..	4
85 and over	45	23	22	22	20	1	2
Under 18 years	2,485	1,265	1,220	1,151	1,118	114	104
65 and over	912	545	367	538	354	7	13
Median age	32.1	33.7	30.6	34.8	31.5	16.8	17.7

Source: U. S. Bureau of the Census 1960, p. 28-60.

nificantly higher, being 22.3 and 21.6 for males and females respectively in Phillips County, and 22.8 and 23.6 for males and females respectively in Yellowstone County. All others, including Lake and Sanders Counties, show median ages for non-whites of 20.6 and under.

The obvious inference from these statistics is that the presence of large numbers of Indians has a tendency to lower the median ages of non-whites in Montana.

What is true of Montana is not a peculiarity but is true also of other states having significantly large minority groups. For purposes of comparison, Table LI (p. 108) gives the median ages of rural whites and non-whites in twelve southern states. The non-whites in these states are overwhelmingly negroid.

Although a comparison between twelve states and twelve counties in one state may be somewhat faulty, it may be interesting to note that the non-whites in these twelve southern states have median ages about two years higher, on the average, than non-whites in these twelve Montana counties included in Tables I, II, and L. The average median ages for non-whites in the twelve southern states being 19.2 for males and 19.8 for females, while in Montana the averages are 17.6 and 17.2 for non-white males and females respectively.

The average median age of white Montana males in the twelve counties shown on the tables is 29.0, and for the rural white males in the south it is 26.8. However, the median age of white females in Montana's twelve counties averages 26.8, while the median age for white females in the rural south is higher, being 28.4 on the average.

By median age we mean that there are equal numbers of a group in

question on both sides of the age given. Thus, in a group of one hundred persons where the median age is, for example, 31.5 years, there would be fifty persons above the median and fifty persons under the median. Knowledge of the median age of a group shows which age group dominates. For example, if the median age is low, young people predominate, but if the median age is high, an older group predominates.

The median age also has implications relative to the longevity of a group since groups with high median ages usually have a longer life expectancy than groups with low median ages, but because this is not necessarily always true, we must beware of reading too much into median ages.

Several reasons can be suggested for the disparity in the median ages of the two groups in question. Perhaps there is a higher mortality rate in the non-white group at certain age levels, or a higher incidence of out-migration on the part of the non-white group at age levels that would influence the median age, or it could be a higher birth rate, or there may be socio-cultural factors acting either as separate influences apart from the ones suggested, or as influences on one or more of the other factors. All of these possibilities, and any others which may be pertinent, were investigated in this thesis.

In many instances it was necessary to make two comparisons or contrasts of whites and non-whites because of the two sets of figures available, that is, non-whites in Lake and Sanders Counties, on the one hand, and Reservation enrollees, or Indians on the Flathead Reservation, on the other. The only figures for whites are for whites in Lake and

Sanders Counties.

II. CONTEXTS IN WHICH THE REASONS FOR THE DISPARITY  
IN MEDIAN AGES WILL BE INVESTIGATED

A General Description of the Reservation and Environs

This part is concerned with geography, climate, natural resources, and economics, in order to describe the area in which the Indians live, for the physical setting in which a people live must be considered in the overall picture for a clearer understanding of any single phenomenon or combination of phenomena, for example, health.<sup>1</sup> No one lives, nor does any event occur, in vacuo.

Who is an Indian?

This seemed to be a variable dependent on the person, organization, or publication, from which (or whom) the information was derived, and was an almost insurmountable problem. In order to exercise some control, after examining the information, a standard was set up which, I trust, will eliminate some of the difficulties involved in determining who is an Indian.

Health and its Ramifications

It is obvious that were mortality one of the factors to be investigated in determining the reasons for the low median age of the Indians, health would have to be considered, along with related topics,

---

<sup>1</sup> Edgar Sydenstricker, Health and Environment (New York: McGraw-Hill Book Company, Inc., 1933), pp. 14-17, 207-208.



such as birth rates, mortality rates, sanitation, and environment.

Health facilities on the Reservation were included in this area since the facilities provided, and the use made of them, had a definite effect on birth and mortality rates, and general health.

### Birth Rates

Were birth rates significantly higher or lower in the Indian group, we could determine the extent of their contribution to the median age difference under investigation. A very high birth rate, for example, along with a low infant mortality rate, and a high general mortality rate, among adults would tend to lower the median age, while a very low birth rate, high infant mortality rate, and a low general mortality rate among adults would have the opposite effect. In the former case, a high infant mortality rate could be offset by an exceedingly high birth rate and a low median age could still result, since there would be enough children produced to compensate for high infant mortality. In the latter case, a low infant mortality rate could be offset were the life expectancy high enough to compensate for the lack of young people, and the median age would remain high.

Because birth and death rates are so influential in population studies, they were considered together.

### Environment

One's physical environment has a very definite effect on health, and ultimately on death, for physical environs lacking in sanitary facilities, for example, are more likely to breed disease, while sanitary conditions contribute to health and longevity. Environment would cover

such matters as homes, sewage disposal, and related factors.

Since the home is such an important part of the environment, a standard was set up to determine what was "good," "fair," or "poor" housing. I determined that "good" housing had indoor toilets, was well sealed against the weather and insects, had indoor running water, refrigeration of food, electricity, garbage removal, heat from a proper heater, and had perhaps at least one room for every one person. "Poor" housing lacked all, or the vast majority, of the above facilities, and "fair" housing lacked from three to five of the criteria.

General sanitation included such things as mentioned above, plus purity of drinking water, clean premises, and bathing facilities. Without these basic sanitary facilities it would be extremely difficult to maintain even minimum standards of cleanliness and avoid disease.

#### Migration

Were there a high incidence of out-migration on the part of the Indians in one age group, this would serve to raise or lower the median age. Some of the factors affecting health would affect migration also. For example, should large numbers of Indians become discontented with their environment, health facilities, and economic and educational opportunities, they might look upon migration as a means of overcoming these disabilities. When evidence was discovered of a high incidence of out-migration, note was taken of the age group, or groups, that suffered the greatest losses therefrom.

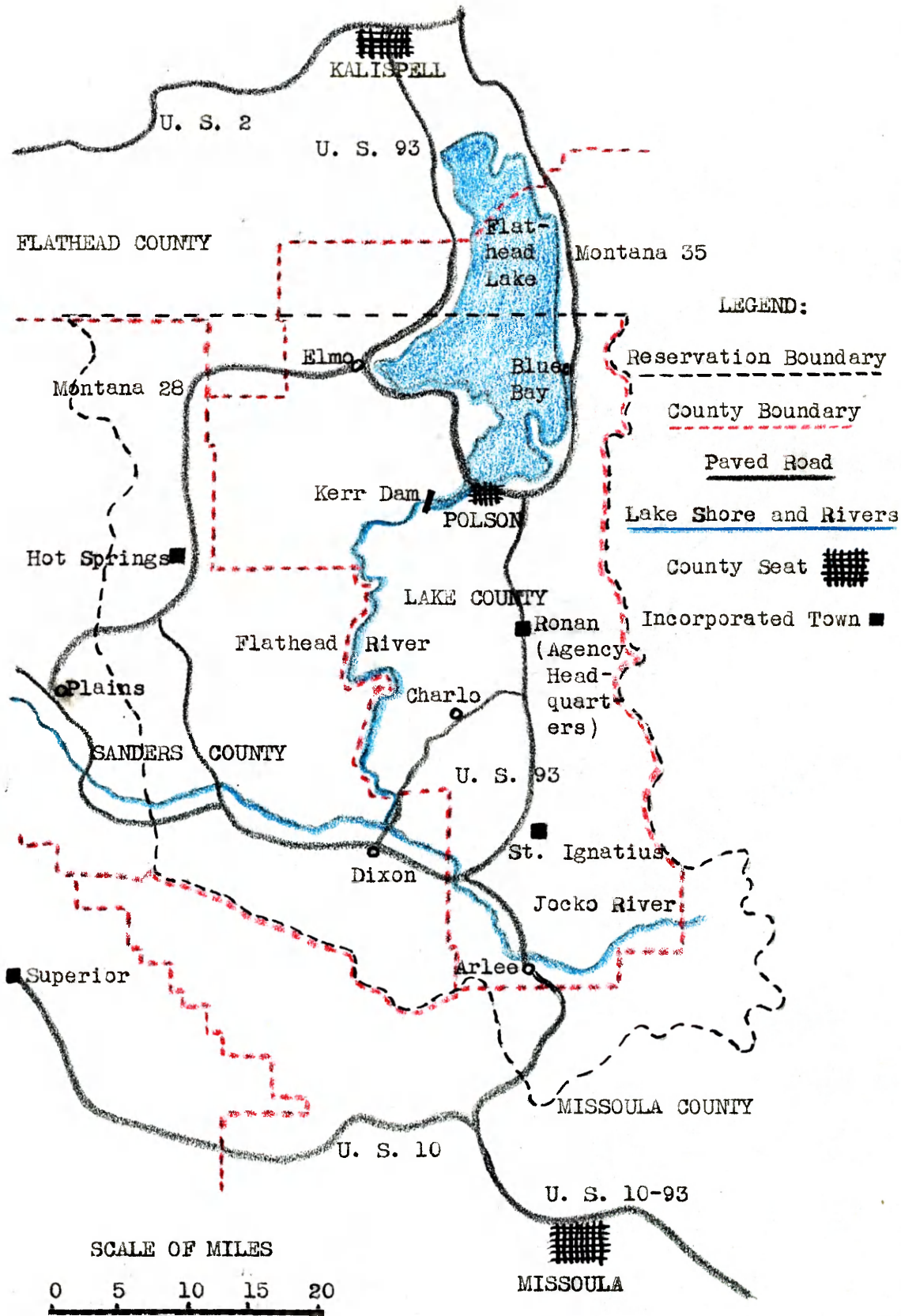


FIGURE I. FLATHEAD INDIAN RESERVATION, MONTANA.

### III. GENERAL DESCRIPTION OF THE RESERVATION AND ENVIRONS

The Flathead Indian Reservation is located in northwestern Montana, approximately eighteen miles northwest of Missoula and twenty-five miles south of Kalispell. It is about seventy miles long by about thirty-five miles wide, covering most of Lake County, a large part of Sanders County, and portions of Flathead and Missoula Counties. The Reservation is occupied by the Salish and Kootenai tribes, and some descendants of the Pend d'Oreille. The ancestral home of the Kootenai was on the eastern slopes of the Rocky Mountains in what are today Montana and Alberta (Canada), but more than one hundred years ago they were pushed westward by the Blackfeet. The Salish inhabited, along with seventeen other tribes, what is now the Pacific Coast of Washington and the islands of Puget Sound, but moved into the Bitterroot Valley at some time prior to 1800. From this area they were displaced to their present location in the late 1800's.<sup>2</sup>

The tribes are organized as The Confederated Salish and Kootenai Tribes under the Indian Reorganization Act of 1934. Business is conducted through an elected council of ten members from seven districts on the basis of the population distribution.<sup>3</sup> The headquarters of the Reservation are located at Ronan, a city of some 1500 people

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<sup>2</sup>U. S. Department of the Interior, The Montana-Wyoming Indian (Denver, Colorado; U. S. Department of the Interior, Bureau of Indian Affairs, Missouri River Basin Investigations Project and the Billings Area Office, June 1958), p. 13.

<sup>3</sup>U. S. Department of Health, Education, and Welfare, Comprehensive Environmental Sanitation Report: Flathead Indian Reservation (Bill-

situated on U. S. Highway 93.

The Reservation was created by the Hellgate Treaty of July 16, 1855, signed at Council Grove, west of the present city of Missoula, and embraced originally 1,243,969 acres. This area was closed to white settlement until passage of the Homestead Act of 1910, and other acts of the Federal Government, after which it was opened for settlement. By the early 1920's there was no land left for allotments and Indians born after this date were landless. The Indians were neither farmers nor ranchers at this time, and most of the good land was purchased from them for little or nothing. As a result, at the present time, non-Indians outnumber the Indians on the Reservation approximately ten to one. The Flathead Reservation is really not a reservation, one official has said.

The Mission Range of the Rocky Mountains dominates the entire eastern boundary of the Reservation and has several peaks reaching elevations of 7,000 feet from the valley floor. Flathead Lake, one of the largest fresh water lakes west of the Great Lakes, covers 189 square miles, much of it within the bounds of the Reservation. This lake at one time covered what is now the Flathead River Valley. The Valley approximates 2,900 feet in elevation. West of the Valley are the foothills of the Salish Range, and along the southern border is the Nine Mile Divide. Most of the Reservation is drained by the Flat-

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ings, Montana: U. S. Department of Health, Education, and Welfare, Public Health Service, Bureau of Medical Services, Division of Indian Health, Billings Area Office, Environmental Sanitation Office, 1962), p. 10.

head River and its tributaries. The portion of the River in Lake County flows southwestward to join the Clark Fork of the Columbia River in Sanders County. Numerous small streams flow westward to drain the Jocko or Arlee Valleys in the extreme southern end of the Reservation.

The Reservation is characterized by a rather wide range of temperatures, with sudden shifts between high and low readings during the winter months. At Polson, on the south shore of Flathead Lake, the January average temperature is 24 degrees F. and the July average is 69 degrees F. At St. Ignatius and Arlee, in the southern parts of the Reservation, similar January and July averages are reported. Rainfall is light, averaging 14 inches in the northern part of the Reservation, and 15 inches in the south. The heaviest rainfall occurs during May and June, when from 3.5 to 6 inches fall. July and August are relatively dry, however. Killing frost occurs as late as mid June and as early as September. The average growing season is between 129 and 180 days. The frost penetration ranges from 3.5 feet in the southern part of the Reservation to 4.5 feet in the northern part, depending more on soil type than on temperature.

There are approximately 5,000 enrolled members of the Confederated Salish and Kootenai Tribes, of which some 2,500 live on the Reservation and the rest in various parts of the United States.

The number of full blood Indians has remained fairly constant over the years, the majority of them living in Arlee and Elmo. The present population mixture on the Reservation consists of approximately 2,500 enrolled members of the Tribe, of which perhaps 300 are full bloods. (Table III, p. 14).

Concerning the education of the Indians, the children have attended mission and public schools with non-Indians for many years. More than 95 per cent of all persons aged six or older read and speak English. There are six public schools of high school level, thirteen public primary schools, and one church operated primary school on the Reservation. (Table VI, p. 17).

Tribal income from natural resources on the Flathead Reservation is considerable and varied. Some 525,000 acres of tribally owned timber and grazing lands yield income from stumpage and also provide wage employment in the cutting of Christmas trees. The Kerr Dam power site is under a fifty year lease for \$175,000.00 to \$200,000.00 per year, payable to the Tribe. The Hot Springs Corporate Enterprise, consisting of a large bathhouse, hotel, tourist cabins, and outdoor swimming pool is valued at almost \$500,000.00. Additional income is derived from land leases, wage labor, farming, livestock, timbering, trapping, and arts and crafts. Although no figures were given, I was informed that the average Indian family income is below that of all rural families in Montana. It is supplemented by per capita payments at intervals.<sup>4</sup>

#### IV. WHO IS AN INDIAN?

To define race is to characterise a group of people on the basis of their common hereditary physical traits, yet complete homogeneity is found in a group only under conditions of artificial selection. Further,

---

<sup>4</sup>Documents supplied by the Superintendent of the Reservation provided most of the information in this section.

TABLE III. ENROLLED MEMBERS OF THE FLATHEAD INDIAN RESERVATION,  
WITH DEGREE OF INDIAN BLOOD, 1964

Amount of Indian Blood	Number
Under one-fourth	1,828
One-fourth but less than one-half	1,635
One-half but less than four-fourths	1,436
Four-fourths	<u>300</u>
TOTAL	5,199

Source: Documents provided by the Superintendent of the  
Reservation.



TABLE IV. POPULATION PROTECTION TO 1975 AND DEGREE OF INDIAN BLOOD, FLAHERD INDIAN RESERVATION.

Degree of English and/or Kootenai blood		1959	1950	1958	1970	1975
Under one-fourth	688	1392	1552	1900	1100	
(one-fourth to one-half	1039	1242	1568	2370	2690	
One-half to four-fourths	932	1192	1352	1570	1720	
Four-fourths	342	298	268	260	250	
TOTAL	3208	4125	4540	5400	5700	

Source: Documents provided by the Superintendent of the Reservation.  
 Projection according to standard population projection methods.

TABLE V. POPULATION PROJECTION TO 1975 OF THE NUMBER ON ROLLS BY RESIDENCE, FLATHEAD INDIAN RESERVATION.

	1939	1945	1950	1960	1970	1975
On Reservation	2559	2833	2166	2490	2600	2700
Off Reservation	<u>649</u>	<u>889</u>	<u>1959</u>	<u>2443</u>	<u>2800</u>	<u>3000</u>
TOTAL	3208	3722	4125	4933	5400	5700

Source: Documents provided by the Superintendent of the Reservation.

Projection according to standard population projection methods.

TABLE VI. SCHOOL ENROLLMENT BY DEGREE OF INDIAN BLOOD, AND TYPE OF SCHOOL, FLATHEAD INDIAN RESERVATION, 1963-1964.

	School Enrollment, One-fourth Degree or More
Public Schools	803
Federal Schools	50
Mission Schools	60
Special Schools and Institutions	<u>9</u>
Subtotal	922
Pupils not in School	16
Status Unknown	<u>12</u>
Subtotal	28
TOTAL	950

Source: Documents provided by the Superintendent of the Reservation.

TABLE VII. EMPLOYMENT FIGURES FOR THE FLATHEAD INDIAN RESERVATION, 1963

On Reservation Population	2502
Less: Under and Over Aged, Students, etc.	<u>1176</u>
Labor Force	1326
<hr/>	
Permanent Employment	300
Temporary Employment	<u>498</u>
Total Employment	798
<hr/>	
Labor Force	1326
Less Total Employment	<u>798</u>
Unemployed	528
<hr/>	
Labor Force	1326
Less Permanent Employment	<u>300</u>
Recurrent Unemployment	1026

Source: Documents provided by the Superintendent of the Reservation.

to deal with mankind from the standpoint of race necessitates classification, and this has been attempted at least as early as the time of Herodotus, and is still being attempted. These attempts, however, run afoul of the facts of life, for from prehistoric times<sup>5</sup> to the present, miscegenation, either mutually voluntary or unilaterally coercive, has undermined the purity of all races, although there are, undoubtedly, many individuals in each racial group who show no evidence of racial mixture. Attempts are still made, nevertheless, to classify man, because whatever race may or may not mean physically, it means a great deal socially and psychologically. This has implications for the problem before us of determining who is an Indian.

Table III, p. 14, shows that only 300 Indians on the Flathead Reservation are considered to be full bloods. The rest range all the way to those having no readily discernible "Indianness," if any. This presents a problem to groups, organizations, institutions, and individuals who find it necessary to determine whether a person is an Indian. As a result, various groups or individuals have set up varying criteria to answer the question "Who is an Indian?"

Some of these criteria are based on biological descent or "degree of Indian blood," some are based on physical appearance, or the basis may be the ability to speak the language of an Indian tribe, or still further, the person's participation in the customs and culture of some recognized Indian group may form the basis for an individual's

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<sup>5</sup> Ralph L. Beals and Harry Hoijer, *An Introduction to Anthropology* (New York: The MacMillan Company, 1961), pp. 88-90.

acceptance as an Indian. In addition, there is the "legal Indian," who may own, or own in part, "Indian property," and who may be a member of some tribal group holding such property.<sup>6</sup> Because of different laws or social attitudes, the same person may be an Indian for some purposes and a non-Indian for others. "In times past, individuals with as little as one two-hundred-and-fifty-sixth of Indian blood may have been included in allotments of tribal lands."<sup>7</sup>

The standards of the Montana State Board of Health and the U. S. Bureau of the Census seem to be in general agreement in determining race, for Montana's Annual Statistical Supplement states that "in general, the statement of race ... reflects the opinion of the informant. It does not necessarily follow any prescribed rules for the reporting of race."<sup>8</sup>

The U. S. Bureau of the Census states that "the concept of race, as it has been used by the Bureau of the Census, is derived from that which is commonly accepted by the general public. It does not reflect clear cut definitions of biological stock, ..."<sup>9</sup> It is to be noted, however, that "self-enumeration" was used in the 1960 Census for the

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<sup>6</sup>Governors' Interstate Indian Council. Study on Termination of Federal Supervision on Indian Reservations. Report submitted by Committee at Missoula, Montana Conference, August 13-16, 1961, p. 5.

<sup>7</sup>Ibid.

<sup>8</sup>Montana State Board of Health, Annual Statistical Supplement (Helena, Montana: Montana State Board of Health, 1963), p. 1.

<sup>9</sup>U. S. Bureau of the Census, U. S. Census of the Population: 1960, Vol. I, Part 28 (Washington, D. C.: U. S. Government Printing Office, 1963), p. 28-xx.

first time, meaning that an individual was allowed to classify himself as to race. In so doing, it coincided with the practice of the Montana State Board of Health.

According to my information, the Flathead Tribal Council and the Bureau of Indian Affairs accept anyone as Indian who has one-quarter Indian blood, or more. We might note that Table III, p. 14, shows that of 5,199 enrollees on the Flathead Reservation in 1964, more than one-third (1,828) have less than one-quarter Indian blood. According to my informants at the Agency Headquarters and the report of a Tribal referendum,<sup>10</sup> since 1959 no one is enrolled on the Reservation who has less than one-quarter Indian blood. Undoubtedly the 1,828 were enrolled prior to 1959, or during that year before the passage of the referendum.

A problem in enumeration presents itself when we compare the 1960 Census Report with a count taken from the rolls of the Flathead Reservation, for the Census shows 1,906 non-whites in Lake and Sanders Counties, which is a combined area larger than the entire area of the Reservation. The rolls, however, show 2,777 non-white enrollees on the Reservation (Table VIII, p. 52). Speculation suggests that perhaps persons with so little an admixture of Indian blood that they would not be recognised as Indians gave their race as Caucasian to the Census taker. It may be that the following statement from Char-Koosta is pertinent: "In many cases a parent may request enrollment of a child and on the certificate the father, or mother, or both, are Indian nevertheless the

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<sup>10</sup> Char-Koosta, April-May 1960, p. 4.

parents (sic) name will be written white." <sup>11</sup> A better explanation for the discrepancy than I have suggested could not be provided by persons at the Agency Headquarters who were questioned about this matter.

Taking a rather hard line, in the light of Columbus' error, is Jack Forbes who, in The Indian in America's Past, considers an Indian a person whose ancestors lived in India, while persons whose ancestors are indigenous to America are native Americans, including also those <sup>12</sup> native Americans of Mexican origin.

A standard definition of Indian, it seems, would require a special act of Congress, and perhaps even then it would be less than satisfactory, yet, some yardstick must be accepted for the sake of uniformity. For the purposes at hand, I have considered those persons as being Indian who are on the Tribal rolls of the Flathead Indian Reservation, but I have kept also in mind that the problem of who is an Indian (or Negro, or Chinese, or white) is unlikely to admit a ready solution, bound up as it is with sociological and cultural attitudes more than with the biological realities of life.

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<sup>11</sup> Char-Koosta, September 1959, p. 3.

<sup>12</sup> Jack D. Forbes, Editor, The Indian in America's Past (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1964), p. 4.



## CHAPTER II

### FACTORS CONTRIBUTING TO THE DISPARITY IN MEDIAN AGES

It will certainly be noted that this thesis has, in comparison with other areas, a great amount of material related to health. This was not by choice, but simply a reflection of the situation that exists. A great deal of material is readily available on Indian health, but relatively little has been written about other phenomena, such as environment or migration, except as these have related to the health of the Indians, or have been included within a book, paper, or talk on some other subject. Relative to migration, for example, of well over two hundred books and government publications on American Indians in which information was sought, only in relation to the Indian relocation program was any mention made of migration, but in such a general way as to be almost useless in a study of the Flathead Indians.

Such a statement as the foregoing was necessary in order to caution the reader away from the assumption that this thesis is biased in favor of health factors when in truth health is but one of many factors bearing on the median age.

#### I. HEALTH AND ITS RAMIFICATIONS

Health services for the Indians have been, for the most part, somewhat less than satisfactory during the more than one hundred fifty years that the Federal Government has been involved with Indian health, as some of the material immediately following will demonstrate. The last ten years or so, however, have shown a marked improvement.

In the early 1800's, under the auspices of the War Department, Army physicians took steps to curb smallpox and other contagious diseases rampant among Indians that were near military posts. "This measure no doubt was intended to protect soldiers at the post, but Indians benefited."<sup>1</sup> In 1832 a treaty between the Federal Government and the Winnebago Indians saw the first formal commitment of the Government to provide health services to Indians. During the treaty-making period from 1778 to 1781 almost 400 treaties were negotiated with Indian tribes, but only some "two dozen provided for some kind of medical service, including an occasional hospital."<sup>2</sup>

An organized effort was made to deal with the Indians' health in 1873 with the establishment of a division of medicine and education in the Bureau of Indian Affairs. The division of medicine was discontinued in 1887 and was not revived until 1909.<sup>3</sup> It was not until 1882 that the first hospital was established for Indians.<sup>4</sup>

The situation that existed on the Pine Ridge Reservation in 1890 is not an extreme example of the kind of treatment accorded Indians. In 1890 there was one physician on the Reservation to care for ten thou-

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<sup>1</sup>U. S. Department of Health, Education, and Welfare, The Indian Health Program of the U. S. Public Health Service (Washington, D. C.: U. S. Department of Health, Education, and Welfare, Public Health Service, Publication No. 1026, n.d.), p. 13.

<sup>2</sup>Ibid.

<sup>3</sup>Office of Indian Affairs, The Indian Health Service. Bulletin 11. (Washington, D. C.: Office of Indian Affairs, 1922), p. 1.

<sup>4</sup>Ibid., p. 2.

sand Sioux and Northern Cheyenne. This doctor made casual examinations of the Indians through a hole in the wall between his office and the Indian waiting room. As unsatisfactory as this arrangement was, many Reservations lacked even this.

The physician who followed the one mentioned above closed the peep hole and examined his patients more thoroughly, yet, because the drugs supplied by contractors were often obsolete, stale, or of inferior quality, he had to purchase fresh medicines with his own funds.

There is also on record a physician who permitted his Indian patients to select their own pills.

"The first appropriation earmarked specifically for general health services to Indians was made in Fiscal Year 1911. Before then, Indian health activities had been financed wholly out of miscellaneous funds."

It would not be fair to say that the Government did not try to help Indians, but it was difficult to overcome a long history of neglect, distrust, and controversy between whites and Indians. In addition, the culturally inculcated inability of the Indians to understand the necessity for health services and dependence on age-old methods of

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<sup>5</sup>Joseph P. Peters, Health Services to the American Indian. A Historical Summary (from The Westerners New York Posse Brand Book, Vol. 10, No. 3, New York 1963). (Washington, D. C.: U. S. Department of Health, Education, and Welfare, Public Health Service, n.d.), pp. 1-2.

<sup>6</sup>U. S. Department of Health, Education, and Welfare, The Indian Health Program of the U. S. Public Health Service (Washington, D. C.: U. S. Department of Health, Education, and Welfare, Public Health Service, Publication No. 1026, n.d.), p. 14.

healing have contributed to the poor state of Indian health.

Modern medicine, surgery, and hospitals were all foreign to the inherited Indian nature. The earlier Indians were and some of the older ones are to this day skeptical as to the value of this science. In most instances their original medical procedures were closely allied to their religions, and the process of diverting or changing their nature from inherited customs centuries old to our present advancement of medical science has required careful study of their nature, and the gradual application of such measures as tended to promote confidence in the results of our medical procedures.

Today, the situation is changing, and has changed, for the better for Indian health services have evolved from a scattering of emergency measures by Army surgeons in the early nineteenth century to today's well organized program of the Public Health Service. This was acknowledged by W. W. McDonald, Chairman of the Flathead Tribal Council, and Editor of the Reservation newspaper, Char-Koosta, who wrote that

... since the U. S. Public Health Service has taken over Indian health from the Bureau of Indian Affairs, the program has advanced a long way in the last two years, we have a fine example of Public Health on the Flathead, there probably is no one Indian on the Reservation who would say the old Bureau of Indian Affairs days were the best.

The general level of health among the Flathead Indians, though not discouragingly low, indicates that they are not taking advantage of all the facilities at their disposal for the protection of their individual and collective health. Some of the more important reasons for this are: a lack of knowledge of the appropriate actions to take for the protection of health, a lack of motivation to take actions which

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<sup>7</sup>Office of Indian Affairs, The Indian Health Service. Bulletin 11. (Washington, D. C.: Office of Indian Affairs, 1922), p. 6.

<sup>8</sup>Char-Koosta, Vol. 3 - No. 2, December 1958, p. 4.

will protect health, and a lack of financial resources to take certain  
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 of the actions necessary for the improvement of their health.

In addition to the preceding, the Indians have environmental and social pressures which promote mental health problems due, in great part, to cross-cultural conflict with the dominant culture. Some of these pressures are unemployment, poverty, alcoholism, disruption of the family unit, child neglect, discrimination, poor housing with its attendant lack of privacy because of overcrowding which gives rise to  
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 frequent respiratory illnesses.

Relative to institutional care, the scattered distribution of the population on the Flathead Reservation makes it difficult to provide institutions offering the multiple, comprehensive services necessary to meet the total needs of the aged, chronically ill, and handicapped beneficiaries. Contributing to this problem are such matters as a lack of funds to provide needed nursing home care, inadequate rehabilitation services in areas near Reservation residents, a shortage of trained personnel to care for chronically ill and handicapped pa-  
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 tients, and the poor home environment of beneficiaries.

Ingrained cultural dietary predilections, isolated family liv-

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<sup>9</sup> U. S. Department of Health, Education, and Welfare, Indian Health Problems and Program Deficiency Bulletin (Billings, Montana: U. S. Department of Health, Education, and Welfare, Public Health Service, Division of Indian Health, Billings Area, July 1, 1964), p. 3.

<sup>10</sup> Ibid., p. 4.

<sup>11</sup> Ibid.

ing, and low economic and educational levels are barriers to overcome in improving nutrition practices. Cardiovascular diseases, diabetes, gallbladder disease, tuberculosis, and other long term illnesses present major nutrition problems. Obesity is a complicating factor, and may be related to the excessively high intake of fats and concentrated carbohydrates.

Home environment subjects infants to many conditions which are deleterious to their growth and development. For example, the nutritional status of infants and preschool children is impaired by inadequate food intake associated with a high incidence of infectious diseases. Repeated episodes of disease further deplete nutritional reserves and retard growth and development. Then, too, in general, the infants live in overcrowded and poorly constructed homes with inadequate sanitary facilities. Their exposure to such debilitating illnesses as respiratory and enteric diseases places an added burden on their struggles to survive on an inadequate diet. During the infant's first year of life he requires repeated hospitalisations for these diseases. If he survives his first year, he faces several more hospitalisations for childhood communicable diseases and their sequelae.

In the area of prenatal care, there are still large numbers of women, especially those who have had more than one child, who do not seek medical care until the third trimester of pregnancy. Those who are giving birth for the first time will usually come in earlier, most in the second trimester. Unwed pregnant women often do not seek medical care during the prenatal period. Few mothers return for postnatal examinations. Abortions and stillbirths occur among the beneficiaries of

the Indian health program, but the extent of these occurrences is un-  
<sup>12</sup>  
 known.

Heart diseases were the primary cause of death on the Flathead Reservation, while accidents were the second leading cause of death on the Reservation during the years 1959-1963. (Tables XLIV, XLV, XLVI, pp. 101, 102, 103). Figures for the year 1962 show that accidents are a big problem for all of Montana's Indians, representing eleven per cent of all hospital discharges. For the fiscal year 1962, 5,759 hospital days were attributed to accidental injuries. Some one-half of accidental deaths among Indians were caused by motor vehicles, while drownings, fires, falls, suffocation, poisonings, and burns are the  
<sup>13</sup>  
 most frequent other causes of accidental deaths.

It is significant that, although heart diseases and accidents are prominent causes of death among the Indians, communicable diseases, on the other hand, are becoming less common as causes of death on the Reservation, for the level of health education is such that most of the beneficiaries avail themselves of medical care when it is needed. Hospital and clinic services are available at several convenient points both on and off the Reservation. Hospitals are located at Hot Springs, Missoula, Polson, Ronan, and St. Ignatius, and each of these contracts with the Public Health Service to handle Indian patients. Out-patient services are located in the same places, and also at Plains. All in all,

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<sup>12</sup> Ibid., p. 2.

<sup>13</sup> Ibid., pp. 2-3.

no Indian family on the Reservation is more than 25 miles from either  
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 hospital or out-patient services.

From the information gathered, it would appear that the biggest "health" problem, or certainly one of the biggest, is not a health problem as such, in that germs and medicine are not involved, but is a problem in human judgement, for accidents are the most comprehensive killers in that they are not limited to any single age group. For example, no one died of heart disease, the number one killer prior to age 35 during the five year period 1959-1963. Motor vehicle accidents are the greatest killers among accidental deaths. For the years 1959-1963, deaths resulting from motor vehicle accidents total only four less than the total of deaths from all other accidents.

The information given in the preceding paragraphs adequately supports the contention that the health of American Indians has been less than desirable during the century and a half of Government concern with Indian health. Although it is much better today, the Indian yet lags behind the population as a whole in health matters. Because of this, the life span of the Indian has been, and is, shortened because of the lack

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<sup>14</sup> U. S. Department of Health, Education, and Welfare, Comprehensive Environmental Sanitation Report: Flathead Indian Reservation (Billings, Montana: U. S. Department of Health, Education, and Welfare, Public Health Service, Bureau of Medical Services, Division of Indian Health, Billings Area Office, Environmental Sanitation Office, 1962), pp. 13-14.

<sup>15</sup> U. S. Department of Health, Education, and Welfare, The Indian Health Program of the U. S. Public Health Service (Washington, D. C.: U. S. Department of Health, Education, and Welfare, Public Health Service, Publication No. 1026, n.d.), p. 1.



of adequate health care. This is a factor that is seen all too often in the lives of people who are in the category that we label "disadvantaged," yet is understandable when one considers the cost of medical care in the country today. However, in the case of the Indians on the Flathead Reservation, much in the way of medical care is either free or can be had for a minimal expenditure of funds. Thus, there must be other reasons for not taking advantage of the health care available, reasons which must be sought within the context of the cultural outlook of the Indians, and their relation to the dominant culture. I have given only the merest hint of this in this section because so much of it is outside the purview of this work; but it would be profitable to pursue such a study under another discipline.

Nevertheless, the level of health care on the Reservation has risen, and there have been fewer deaths from most causes, excepting the ever present heart diseases and accidents, and as time passes and the mortality rate decreases, we may expect a rise in the median age.

An investigation into the health situation of the Indians has an important bearing on the median age since the level of health helps one to understand the mortality rates that exist. Consider the two outstanding causes of death among the Flathead Indians: heart disease and accidents. Table XLIV (p. 101) shows that all deaths from heart disease occurred at age thirty-five and over, with the greatest frequency from sixty years upward. Of 26 motor vehicle and other accidents, 19 occurred at twenty years and over, and only 7 occurred under twenty. The frequency of these causes of death beyond the adolescent period certainly

has an influence on the lowering of the median age.

## II. BIRTH AND DEATH RATES

In the enumeration necessary for this section and succeeding sections, an enumeration based on figures for a five year period (1959-1963) was used because many of the figures for one year, especially for infant deaths, were so small that percentages were insignificant and failed to give a broad enough picture of natality and mortality.

Since we had conflicting figures in the sources, I deemed it advisable to chart figures from the Annual Statistical Supplements of the Montana State Board of Health and the Census Bureau for most of the graphs, and for purposes of comparison, figures based on an enumeration of the Reservation population from the Reservation rolls and publications of the Public Health Service, specifically The Pathfinder, and Vital Statistics, Billings Area Indians. The sources are linked as they are because I believed that the Public Health Service presented me with figures which were nearer the correct figures than were those of the Board of Health and the Census Bureau, a belief based on my having made an actual count of the Reservation enrollees and having found my figures to be closer to those of the Public Health Service publications.

Much of the problem with numbers is, no doubt, the old problem of deciding who is an Indian. A comparison of Montana State Board of Health figures (Tables XIV-XXIII, pp. 71-80) of births, overall deaths, and infant deaths with Public Health Service data for the same phenomena (Tables XI-XIII, pp. 67-69) showed that the former were regularly

lower. In spite of this difference, however, the general statistical relationship of white and Indian births and deaths was not altered. For example, regardless of the sources used for comparison, the Indian birth rate was still higher than the white birth rate, although the two different sources for the Indians had different figures. (Cf. Figures III and IV, pp. 35-36).

Birth and mortality figures were significant in this study and went far toward explaining the low median age of Indians as compared with whites. (For causes of death for infants and all ages, see Appendix). The graphs serve to illustrate this difference. Note, for example, that the non-white birth rate in Lake County was more than twice the white birth rate (56.5 to 18.2), while the non-white death rate in Lake County was 15.1, and the white death rate was 11.0. (Figure II, p. 34).

In Sanders County, the non-white birth rate was 39.8, while the white birth rate was 20.5, but the non-white death rate was more than 4.9 points lower than the death rate of Sanders County whites (7.1 to 12.0). (Figure II, p. 34).

When the same birth rates and death rates were worked out on the basis of figures taken from Public Health Service publications and a count of the rolls, a change was noted, albeit one which did not raise or lower the birth or death rates to such an extent that the essential relationship between white and Indian birth and death rates was altered. These sources showed that the birth rate for Reservation enrollees was 11.8, and the overall death rate was 49.2. (Figure IV,

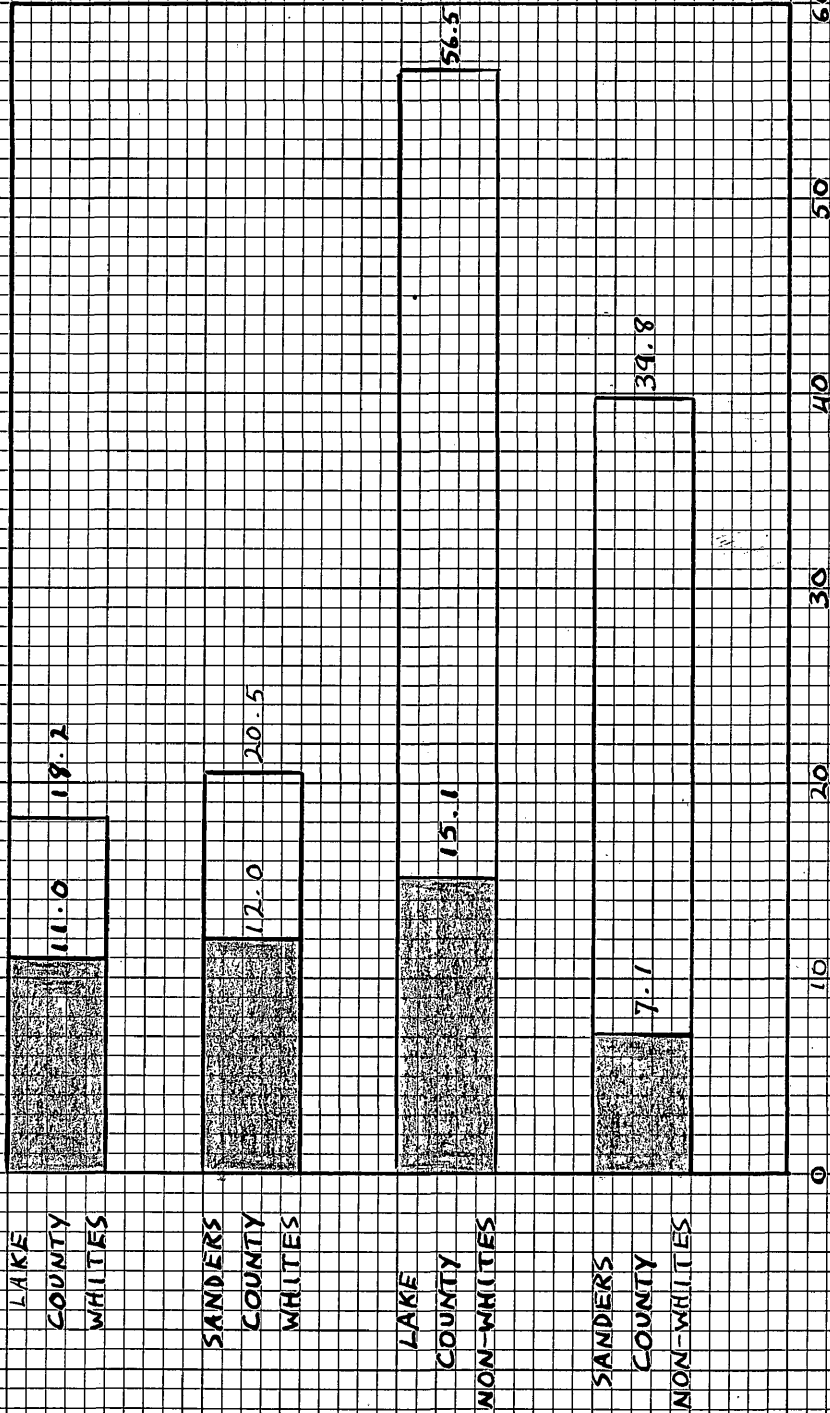


FIGURE II

BIRTH AND DEATH RATES, LAKE AND SANDERS COUNTIES, WHITES AND NON-WHITES, 1959-1963

□ BIRTHS ■ DEATHS

SOURCE: MONTANA STATE BOARD OF HEALTH, ANNUAL STATISTICAL SUPPLEMENTS, 1959-1963

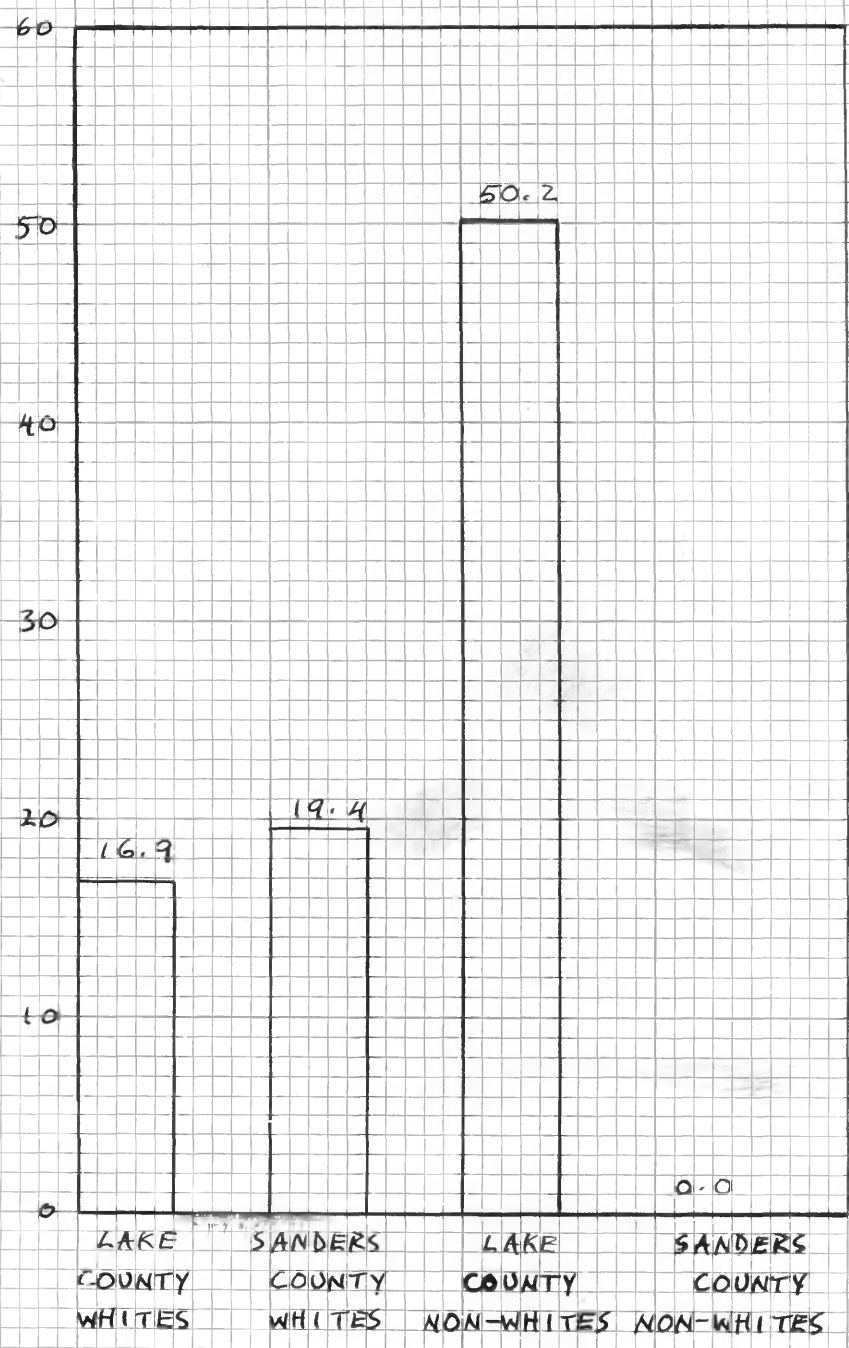


FIGURE III

INFANT MORTALITY RATES, LAKE AND SANDERS COUNTIES, WHITES AND NON-WHITES, 1959-1963

SOURCE: MONTANA STATE BOARD OF HEALTH, ANNUAL STATISTICAL SUPPLEMENTS, 1959-1963

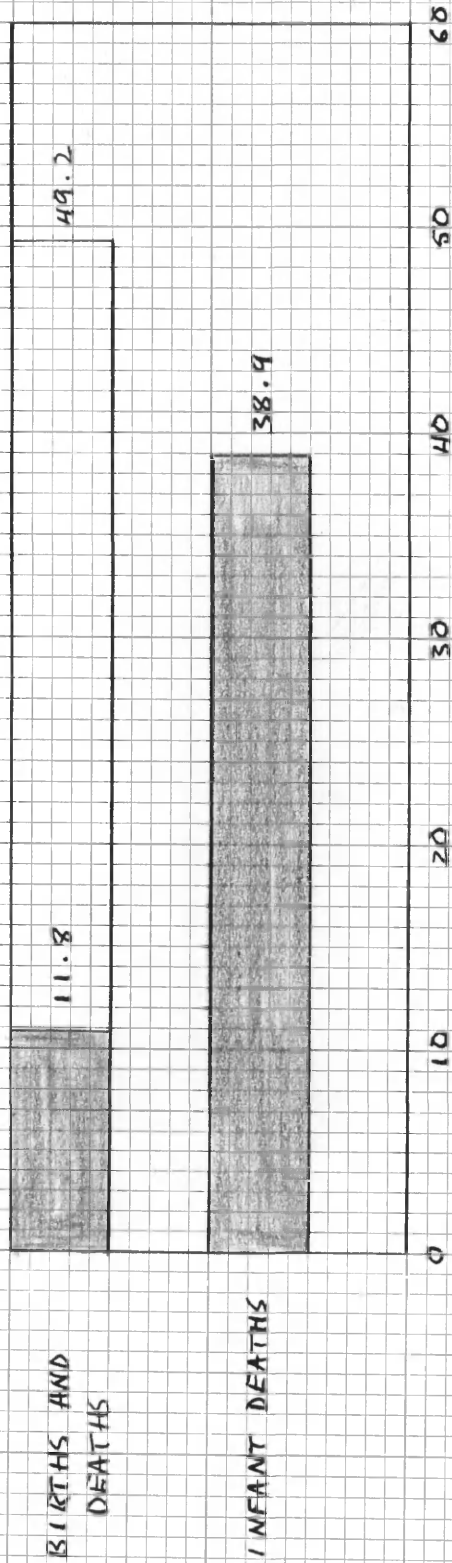


FIGURE IV

BIRTH AND DEATH RATES AND INFANT DEATH RATE, FLATHEAD RESERVATION ENROLLEES, 1959-1963

□ BIRTHS    ■ DEATHS

SOURCE: THE PATHEINDER, SEPTEMBER-DECEMBER 1964, AND PER CAPITA DIVIDEND PAYMENTS ROLLS, 1959-1963

p. 35).

Figures from the Montana State Board of Health gave an infant mortality rate for Lake County whites of 16.9, and for Sanders County whites of 19.4, while for Lake County non-whites the infant mortality rate was 50.2, but Sanders County recorded no infant deaths during the years 1959-1963. (Figure III, p. 35).

Figures from the Public Health Service showed the infant death rate to be 38.9. (Figure IV, p. 36).

A comparison of the material which was studied on whites and non-whites in Lake and Sanders Counties with figures on rural whites and non-whites in twelve southern states in 1960 disclosed a pattern in the latter which was consistent with that found in Montana counties with which we have been concerned. The median ages were found to be consistently lower among non-whites in both the Montana counties and in the southern rural areas. What was true of Lake and Sanders Counties in Montana was also true of ten other Montana counties where significant numbers of non-whites were found. (Tables I, II, L, LI, pp. 2, 3, 107, 108).

Live births and birth rates in the twelve southern states were generally the same as those for Lake and Sanders Counties, that is, they were higher among non-whites. Maryland and South Carolina, however, were exceptions in that the birth rates were higher among the whites than among the non-whites. (Figures II, IV, pp. 34, 36; Table LII, p. 109).

Except in Maryland, where the total death rate was higher for

whites than for non-whites, in the rural areas of the twelve southern states the mortality rates, both general and infant, were in line with what we have noted in our area of concern here in Montana, for the non-whites had higher death rates than the whites. (Figures II, III, IV, pp. 34, 35, 36; Table LIII, p. 110).

A manuscript, "Causes of Death Among the Flathead Indians 1920-1954," by Ron D. Stubbs, was brought to my attention which I would like to cite for purposes of comparison and contrast. During the period under study by Stubbs, the greatest number of deaths were from influenza and pneumonia (287), tuberculosis (136), and heart disease (123), while accidental deaths totalled 122.<sup>16</sup>

Dividing his enumeration into periods of five years, Stubbs showed that the greatest number of deaths from influenza and pneumonia were in the years 1930-1934 and totalled 52, which gave a rate of 5.5. The smallest number of deaths from influenza and pneumonia were in the years 1950-1954 and totalled 12, a rate of 1.2. The greatest number of deaths from tuberculosis were in the years 1935-1939 (38), occurring at a rate of 3.3, and the smallest number (15, or a rate of 1.5) occurred in the years 1950-1954. Heart diseases showed an increase, in contrast to the two former ailments, from 4 in the years 1920-1924, a rate of 1.0, to a high of 31 in the years 1940-1944, a rate of 2.8, dropping to 24 in the years 1950-1954, a rate of 2.5.<sup>17</sup> He attributed this rise

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<sup>16</sup> Ron D. Stubbs, "Causes of Death Among the Flathead Indians 1920-1954" (presented to a class in Anthropology at the University of Montana, 1954), p. 17.

<sup>17</sup> Ibid.



to the fact that "deaths which were previously listed as senility cases have been broken down into more specific causes. This is due both to a trend by doctors to be more specific and to the fact that in later years more doctors have been in attendance at the time of death or shortly thereafter."<sup>18</sup>

As for accidental deaths, Stubbs discovered that only in the five year period 1930-1934 did the number drop below 13, and that was the period during which only 8 persons died accidentally.<sup>19</sup>

During the five year period under study in this thesis, deaths from pneumonia totalled only 6 (Table XXXIX, p. 96), a rate of 0.5, from tuberculosis 5 (Table XXXVII, p. 94), a rate of 0.4. Heart diseases, however, increased to 39 (Table XLIV, p. 101), a rate on 3.7. In addition to the explanation given by Stubbs which was cited above, and which is quite reasonable, speculation suggested the possibility of another factor; the stress and strain of acculturation and conflict with the dominant culture.

In the area of accidental deaths (Tables XLV-XLVI, pp. 102-103) there was a slight increase from the highest figure given by Stubbs of 24, for there were 26 accidents in the five year period 1959-1963 which were causes of death, and automobile accidents were the most frequent (11 out of 26).

The causes of death considered in this section had a very definite bearing on the median age of the Flathead Indians, for of the

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<sup>18</sup>Ibid., p. 19.

<sup>19</sup>Ibid., p. 17.

ten causes of death listed in the Appendix (Tables XXXVII-XLVI, pp. 94-103) only four affected the very young: pneumonia; gastritis, duodenitis, enteritis, and colitis; motor vehicle accidents; and other accidents. In the case of the latter two causes, however, the majority of deaths occurred at age 15 and over (10 out of 11 motor vehicle accidents, 11 out of 15 other accidents). As for the remaining six causes of death, none occurred prior to age 25. In other words, of a total of 106 deaths, 94 (88%) occurred above 15 years of age, a circumstance which effectively helped to lower the median age.

### III. ENVIRONMENT

The major environmental sanitation problems in existence on the Flathead Indian Reservation were inadequate quantity and poor quality of water used in the homes, and insanitary methods of disposal of body wastes and refuse. In addition to these, there was also the problem of substandard housing which, of course, because it was a most important part of the total environment, could not be ignored in such a study as this because of the very real contribution that poor housing made to poor health.

There have been efforts by officials of the Reservation to eliminate, or mitigate, the hazards stemming from waste and refuse through clean-up campaigns and also through legislation. An ordinance passed on August 14, 1958 decreed that

Any Indian residing on Tribal property who fails to keep the premises upon which they reside clean of debris or any Indian who is found depositing trash of any description upon Tribal property which is not designated as a dump ground area, shall be guilty of defacing Tribal property, inducing

a public health hazard on the premises and permitting the general appearance of the property to deteriorate.

AND

Upon conviction thereof shall be sentenced to labor for a period not exceed (sic) 10 days or shall be fined in an amount not exceeding \$25.00 or both.<sup>20</sup>

Communicable diseases that are known to be common on the Flathead Reservation, and that are directly related to poor environmental sanitation conditions are shigella dysentery, gastroenteritis, infectious hepatitis, streptococcus infections, tuberculosis, otitis media, impetigo, upper respiratory infections, influenza, pneumonia, and other superficial infections.<sup>21</sup>

The high frequency of diseases such as pneumonia, influenza, and upper respiratory infections may be expected in view of the relatively large number of poorly insulated, crowded dwellings, in which large temperature fluctuations are experienced during cold months in the winter. The high frequency of enteric diseases may likewise be expected in view of the lack of sufficient, convenient, and safe water needed to establish good sanitation practices in the homes. Such diseases may even be expected to reach epidemic proportions during the warmer months, due to grossly polluted waters being utilized, and the contamination of food by flies that have thrived on exposed garbage

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<sup>20</sup>Char-Koosta, September 1958, p. 1.

<sup>21</sup>U. S. Department of Health, Education, and Welfare, Comprehensive Environmental Sanitation Report: Flathead Indian Reservation (Billings, Montana: U. S. Department of Health, Education, and Welfare, Public Health Service, Bureau of Medical Services, Division of Indian Health, Billings Area Office, Environmental Sanitation Office, 1962), p. 14.

and body wastes.

According to one source, there were over 500 occupied Indian dwellings on the Flathead Reservation, of which 85 per cent were classified as frame construction, condition of the structures varying from very poor to quite good; nine per cent were classified as log houses, generally in fair condition; one per cent were tar paper shacks, small and extremely dilapidated; and two per cent were of masonry construction and in relatively good condition. Many of the dwellings were small and crowded, and in rather poor condition.

One source provided the information that "70% of the Indian people live in homes with three rooms or less with an average occupancy rate of 5.4 people per house," while another gave a figure of 4.9 persons per house and 1.2 persons per room.

Most homes were adequately heated in spite of their condition, but a few lacked sufficient heat on a sustained basis. Electricity, which was available to 91 per cent of the dwellings on the Reservation, was utilised by 90 per cent of the dwellings on the Reservation. The cost of extending power lines to homes seemed to have been the major deterrent to unanimous utilisation of electrical power.

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<sup>22</sup>Ibid., p. 19.

<sup>23</sup>U. S. Department of Health, Education, and Welfare, Indian Health Problems and Program Deficiency Bulletin (Billings, Montana: U. S. Department of Health, Education, and Welfare, Public Health Service, Division of Indian Health, Billings Area, July 1, 1964), p. 5.

<sup>24</sup>Comprehensive Environmental Sanitation Report, 1962, p. 19.

<sup>25</sup>Ibid., p. 2.

Ground waters were available almost everywhere in the area, however, the depths at which these waters were to be found were at various levels, some of them extreme. Some two-thirds (67.5 per cent) of the Indian dwellings had satisfactory sources of water available within a reasonable distance (about one hundred yards), although slightly more than ten per cent of the people hauled their water more than one hundred yards. Methods of hauling, however, were in most cases, unsatisfactory, as were methods of home storage of water. Twenty-nine per cent of the dwellings had individual pressure water systems, and another thirty-two per cent were connected to community water distribution systems.

Approximately one-half of the Flathead Reservation dwellings (46.9 per cent) utilised inside flush toilets, and one-half (50.7 per cent) utilised privies. Only three per cent of the privy structures could be considered satisfactory, that is, they had a fly-tight door and floor, riser and lid, and were in good repair.

The communities which had the poorest facilities for sewage disposal were Arlee and Elmo. Neither of these areas had access to either community water supplies or community sewerage systems.

Storage of refuse (putrescible animal and vegetable wastes, non-putrescible solid wastes, and ashes) was found to be satisfactory at 58 per cent of the dwellings. Satisfactory collection methods were utilised by 60 per cent of the dwellings, and 66 per cent of the dwellings

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<sup>26</sup>Ibid., p. 3.

<sup>27</sup>Ibid., p. 26.

had satisfactory means of disposal. Those dwellings which had refuse collection service were all in, or adjacent to, the incorporated towns. A large number, however, (33 per cent) dumped their refuse on the ground surface on their premises or indiscriminately about the area. <sup>28</sup>

Flies constituted the major problem insofar as vectors of disease were concerned on the Flathead Reservation. Three-quarters of the homes were infested with flies during the warmer months of the year. This infestation was the result, primarily, of poor practices in refuse handling and sewage disposal. Rodents were a source of trouble to a few, with slightly over 10 per cent of the homes reporting an infestation of these creatures.

Screening of the dwellings aided materially in the control of flying insects within the home. Nearly a third (30 per cent) of the dwellings were fully screened, and nearly half (48 per cent) were partially screened. Homes were considered fully screened when all window screens and door screens were unbroken, and were without cracks through which flies might enter. There was no screening at all on 22 per cent of the dwellings. <sup>29</sup>

Storage of non-perishable foods was adequate in most of the homes, and storage of perishable foods in a like number (79 per cent and 81 per cent respectively). Satisfactory dishwashing methods made use of hot water and detergents in washing, and hot water rinse and air or clean towels in drying. However, only 50 per cent of the dwellings

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<sup>28</sup>Ibid., p. 30.

<sup>29</sup>Ibid., p. 32.

had satisfactory disposal of sink and dishpan wastes. The majority of the remainder disposed of them onto the ground, more often than not, just outside their doors. For some 12 per cent of the Indian families disposal of these wastes was in a pit.<sup>30</sup>

Thus, with the vast majority (99.8 per cent) of homes provided with some heat, with 67.5 per cent possessed of adequate water supplies, with about half of the homes using indoor toilets, two-thirds having satisfactory garbage removal, and 91 per cent having electricity, I believe that we could consider these homes to have been in satisfactory condition overall, if not excellent. However, screening of the homes was less than adequate on the whole, with something less than a third fully screened. In addition, with 70 per cent or more of the homes having a space ration of more than one person per room, overcrowding presented a problem. These factors made the general picture only fair, although there were some homes that would fall into the category of "good," with some being in excellent shape.

It should be well understood, however, that such a quantitative assessment of the Flathead Reservation environmental conditions, however favorable, does not tell the whole story. For example, even in a community with homes that might be considered excellent, one nearby open garbage pit, or one nearby polluted stream, would be enough to threaten the health of an otherwise healthy community. Qualitatively, then, in the light of the foregoing figures, the overall environment of the Reservation enrollees was perhaps something less than fair, though

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<sup>30</sup> Ibid.

not at all generally poor. This being so, pathogenic organisms were to be expected in greater abundance than in an area with a superior environment.

#### IV. MIGRATION

Following is an enumeration of the enrollees both on and off the Flathead Indian Reservation during the years 1959-1963 in an attempt to determine whether migration has any relation to the lowering of the median age of the Indians.

To gather this information, it was necessary to count the names of those persons listed on the Reservation's Per Capita Dividend Payments rolls for each of the five years 1959-1963, and to take note of the addresses of the enrollees in order to determine who was on or off the Reservation during each of the years under consideration. There may be variations discovered if my count is compared with others because of different criteria used to arrive at a total. For example, some might disallow a person as a resident of the Reservation if that person died during the year, especially if death occurred early in the year. I included such persons, however, even if they died during the first few days of January of the year in question.

An excellent example of the confusion that can result from efforts to enumerate Reservation residents was seen in the year 1960 where, apart from my count, there were three other figures given, and each one was different. The Government Census total for the non-white population for all of Lake County and Sanders County, combined, an area larger than the Flathead Reservation, was 1,906. Information supplied



by the Superintendent of the Agency, however, gave a figure of 2,490 (p. 16), while the Public Health Service listed 2,700. The count that I made showed 2,777 enrollees on the Reservation. It may be that these counts were all arrived at from different figures which, though valid in one way or another, were based on a different enrollment roster, or on different criteria. I do not doubt that the crux of the difference in my count when compared with that of the Bureau of the Census was the aforementioned difficulty of agreeing on who should be considered an Indian. All in all, I did not believe that the discrepancies, or variations, which would be found in my count were great enough to render my figures nugatory.

In counting those on and off the Reservation, one of the basic assumptions made was that children were living with their parents, if the children were minors, and if the addresses were given only in connection with the names of the parents. Further, I did not count as having legal residence off the Reservation those who were away in boarding schools, the military service, or in prison. In truth, all such persons would not have significantly influenced the population figures since they totalled less than one hundred persons a year, all told. It should be noted in passing that many persons who were listed as living off the Reservation still lived in close proximity to it, residing in such places as Seeley Lake, Thompson Falls, Missoula, and other nearby communities.

In enumerating the Reservation population from the rolls, it was discovered that less than half the population was over 18 years of age (Table IX, p. 53), but beyond this, a significant, and perhaps dramatic,

change was noted in the median age. Whereas the median age for non-whites in the area under study was 16.85 years, according to my count, the median age for non-whites dropped to the vicinity of 13 years (Table X, p. 54), for the number of residents on the Reservation was very nearly equally divided between those 0-13 years of age and those 14 years and over.

This did not affect the basic question, however, which was: Why was the median age lower among Indians? Part of the answer was to be found in the factor of out-migration. Table VIII, p. 52, showed that there was an increase in the number of persons living off the Reservation from 2,041 in 1959 to 2,458 in 1963, which is an increase of 16.96 per cent, but the population of the Reservation increased only from 2,545 in 1959 to 2,665 in 1963, an increase of 4.43 per cent. In response to questions addressed to officials and certain residents of the Reservation in which I sought to establish a reason for the migration of Reservation enrollees, the preponderance of answers centered on the lack of employment opportunities on the Reservation. This is easily understood when one considers the overall employment picture in the area covered by this study, an area lacking in industries and other large scale employers of a work force. As one person on the Reservation put it when queried about the situation, "I guess they just wanted to make a dollar."<sup>51</sup> The Reservation Projects Development Officer concurred in this view, although he phrased it somewhat differently.

The Flathead Reservation is in an agricultural area where op-

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<sup>51</sup>Conversation with a Flathead Reservation enrollee, 1965.

portunities for permanent year around employment are quite limited and also demand job skills in which few Indians are trained. During the summer months there is a demand for seasonal laborers, but this demand tapers off with the approach of autumn, and there is a definite surplus of labor in the winter months.

From an informant it was learned that the majority of those Indians who migrated from the Reservation to seek economic fulfillment elsewhere were mixed bloods. This may or may not have significance for the sociologist. These were persons who had accepted, to a greater or lesser degree, the mores of the dominant culture which emphasizes the accumulation of money and other forms of wealth as a means of gaining a rung on the ladder of status. This was not traditionally peculiar to the Indian culture.

Wealth in the form of game or produce was shared with members of the extended family group or with the clan. Recognition was achieved by military prowess, skill in hunting, or achievements which benefited others. Sharing of one's wealth is still commonly practiced in many Indian groups and acquisitiveness regarded as selfishness.

A survey of the rolls showed that in 1960 some 87 persons had addresses off the Reservation who had resided on the Reservation in 1959. Fifty-eight of these were adults. Of the remaining twenty-nine, twenty-three were under fourteen years of age, and the remaining six were fourteen and above. All twenty-nine moved away with their parents. Thus, sixty-four of eighty-seven out-migrants were above fourteen years

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<sup>32</sup>U. S. Department of the Interior, The Montana-Wyoming Indian (Denver, Colorado: Bureau of Indian Affairs, Missouri River Basin Investigations Project and the Billings Area Office, June 1958), p. 3.

of age. Five of these persons were sixty or more years of age and may not have been employable simply on the basis of age. In truth, two of the most aged were in hospitals.

The preponderance of older persons among the out-migrants supported the belief held by Reservation enrollees themselves, that most persons who did leave the Reservation were seeking employment. Indeed, thirty-two of the migrants in 1959 left under the auspices of the Relocation Program or the Adult Vocational Training Program, both of which were aimed at finding employment for Indians off the Reservation.

From the preceding information, it would appear that, although the migration of non-whites was involved in the lowering of the median age, this may not have been as important a factor as supposed since the number of out-migrants was only 2.94 per cent of the 1959 population, and it scarcely varied during the other years under consideration.

There was another factor in migration which was quite relevant, however, and had a bearing on the median ages, and that was the out-migration of whites. Figure V (p. 55) demonstrates this, for this Figure records a precipitous drop in the number of young whites in Lake and Sanders Counties in 1960.

Choosing as points of reference the age groupings 20-24, the lowest point in the scale for Lake and Sanders Counties' whites, and age 65 and over, we discovered that 3.81 per cent of Lake County whites were in the 20-24 category, and 4.39 per cent of Sanders County whites were in that same category. Lake and Sanders Counties' non-whites, however, had higher percentages in the 20-24 age group, there having been 5.21 per cent and 5.83 per cent of non-whites in Lake and Sanders Coun-

ties respectively in the 20-24 age group.

For the 65 and over group, whites in Lake and Sanders Counties exceeded the non-whites, both numerically and percentagewise. In Lake County 14.15 per cent of the whites were 65 and over, and in Sanders County 15.78 per cent of the whites were 65 and over. On the other hand, only 7.02 per cent of Lake County non-whites, and 4.83 per cent of Sanders County non-whites were 65 and over.

Further, there was a general increase in the number of whites after 20-24 years, with a peak between ages 40-49. For the non-whites, however, there was a general downward trend after age 20, which left fewer old people and weighted the age scale toward the young side.

(Figure V, p. 55).

The crux of the matter of migration, then, seems to be found in the out-migration of young, white Montanans who left the state, or more specifically, the two counties in question, for one reason or another . . . economic, educational, cultural, or whatever . . . while the non-white youth remained in greater proportion to the non-white total population.

TABLE VIII. NUMBER ON ROLLS BY RESIDENCE, FLATHEAD INDIANS, 1959-1963

	1959	1960	1961	1962	1963
On Reservation	2545	2777	2840	2733	2663
Off Reservation	<u>2041</u>	<u>2156</u>	<u>2153</u>	<u>2400</u>	<u>2458</u>
TOTAL	4586	4933	4993	5133	5121

Source: Per Capita Dividend Payments Rolls, Flathead Reservation,  
1959-1963.

TABLE IX. NUMBER ON ROLLS BY AGE GROUP AND RESIDENCE, FLATHEAD INDIANS;  
1960 (NO. 1)

	0-18 years	19-44	45-54	55-over	Total
On Reservation	1672	761	181	163	2777
Off Reservation	<u>603</u>	<u>1086</u>	<u>233</u>	<u>234</u>	<u>2156</u>
TOTAL	2275	1847	414	397	4933

Source: Per Capita Dividend Payments Rolls, Flathead Reservation,  
1960.

TABLE X. NUMBER ON ROLLS BY AGE GROUP AND RESIDENCE, FLATHEAD INDIANS,  
1960 (NO. 2)

	0-13 years	14-44	45-54	55-over	Total
On Reservation	1336	1097	181	163	2777
Off Reservation	<u>445</u>	<u>1244</u>	<u>233</u>	<u>234</u>	<u>2156</u>
TOTAL	1781	2341	414	397	4933

Source: Per Capita Dividend Payments Rolls, Flathead Reservation,  
1960.



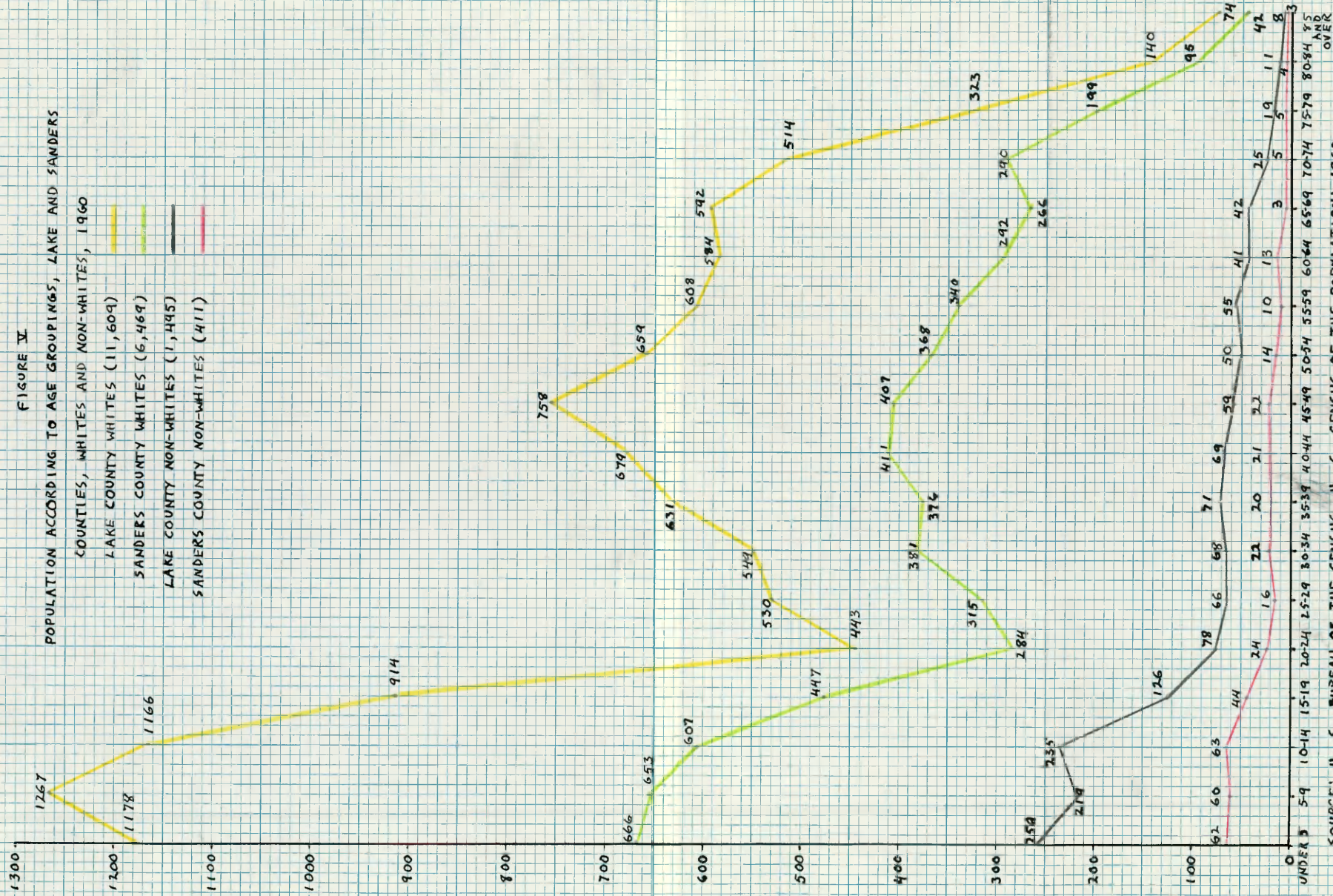
FIGURE V  
POPULATION ACCORDING TO AGE GROUPINGS, LAKE AND SANDERS  
COUNTIES, WHITES AND NON-WHITES, 1960

LAKE COUNTY WHITES (11,609)

SANDERS COUNTY WHITES (6,469)

LAKE COUNTY NON-WHITES (1,445)

SANDERS COUNTY NON-WHITES (411)



SOURCE: U. S. BUREAU OF THE CENSUS. U. S. CENSUS OF THE POPULATION: 1960.

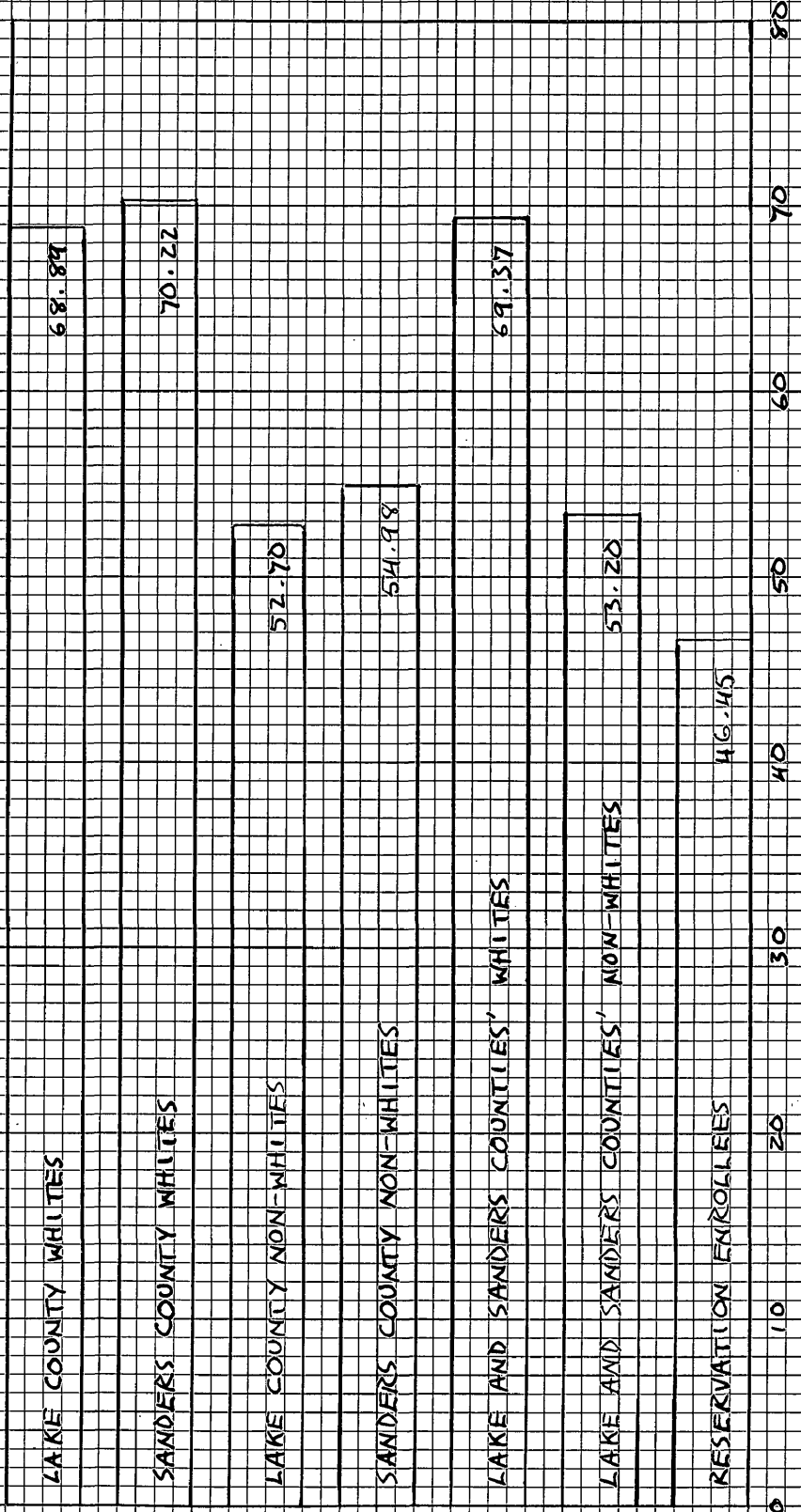


FIGURE VII

PERCENTAGE OF POPULATION FIFTEEN AND OVER, LAKE AND SANDERS COUNTIES, 1960  
 SOURCE: U. S. BUREAU OF THE CENSUS, CENSUS OF POPULATION: 1960. VOL. I, PART 28

## CHAPTER III

### SUMMARY AND CONCLUSION

In summary, it would appear that the factors which had the greatest bearing on the median age of the Indians on the Flathead Reservation were birth rates, mortality rates, and migration.

Births among the Indians generally increased during the five year period under study, from 117 in 1959 to 146 in 1963, according to Public Health Service figures (Table XI, p. 67), and increase of 19.86 per cent, or, expressed as rates, the increase was from 45.9 in 1959 to 54.8 in 1963. For the same period, using figures for Lake and Sanders Counties from the Montana State Board of Health (Tables XIV-XVIII, pp. 71-75), Indian births increased from 95 to 120 or 20.83 per cent. In spite of this, the birth rate dropped from 52.7 to 51.5 because the increase in the Indian population was not enough to keep the birth rate constant. White births in the same area and for the same time span declined 4.7 per cent (361 to 344), a drop in rates from 20.0 to 18.7.

Among some of the reasons for the higher birth rate among the Indians may be the atavistic belief in large families as a means of increasing the sphere of cooperation for purposes of survival. This attitude seems to have atrophied among the whites because of numerical superiority, economic affluence, cultural ascendancy, and a general feeling of security, all of which obviate the fear of racial extinction. Naturally, this is virtually impossible to prove, but is valid grist for anthropological speculation.

Another contributing factor to the high Indian birth rate, which was suggested by the Superintendent of the Agency, was that more than ninety per cent of the Indians were Roman Catholics and adhered to that Church's traditional sanctions against birth control. To be sure, the Public Health Service has not disseminated birth control information, and, if it had, it was felt that the Roman Church's opposition would have rendered it ineffective.

Of course, it is also true that all lower income groups in the United States, regardless of racial background, have higher birth rates due, perhaps, to their inability (as seen by the majority group) to grasp the economic, environmental, and educational implications involved in producing large numbers of children.

I would not doubt, either, that the lack of regular year around employment for lower income groups, coupled with a scarcity of recreational opportunities, had an effect on the birth rates. As a young lady stated in a sociology paper in one of my undergraduate classes some years ago, "Lower income groups have so many children because of a lack of outdoor recreation facilities."

Along with the high birth rate, the death rate among Lake County non-whites was 15.1 for the five years 1959-1963, and the Sanders County non-whites had a death rate of 7.1. The death rate of Lake County whites was 11.0, and of Sanders County whites 12.0. Figures from the Public Health Service showed an Indian death rate of 11.1.

When the births of each group were compared with deaths, we got a different picture. White deaths in Lake and Sanders Counties over the

five year period 1959-1963 were 59.81 per cent of white births, or a rate of natural increase of 696 (for actual figures, see Tables XIV-XVIII, pp. 71-75), while Indian deaths from the same area over the same time span were 25.41 per cent of Indian births, or a rate of natural increase of 408 (for actual figures, see Tables XIV-XVIII, pp. 71-75). The preceding figures were based on Montana State Board of Health Annual Statistical Supplements, but Public Health Service publications showed Indian deaths to have been 24.1 per cent of Indian births, or a rate of natural increase of 507 (actual figures given in Tables XI and XIII, pp. 67, 69). The percentages were what they were among whites not so much because of a high mortality rate, but because of a low birth rate, while for the Indians a high birth rate caused their percentages to be much lower than those of the whites. Thus, it became obvious from the preceding figures that whites were not replacing their death losses with births as fast as were the Indians.

In the area of infant mortality, however, the Indians had many more infant deaths per 1,000 live births than the whites. (Figures III and IV, pp. 35-36). Yet, because there were so many more Indian children born in the first place, the high infant mortality rate did not decimate the population, and no significant influencing of the median age occurred.

We saw also from Figure V, p. 55, that, although there was a precipitous drop in the numbers of whites in Lake County from ages 5-9 to ages 20-24 in 1960, and a somewhat less precipitous, albeit dramatic drop in the number of Sanders County whites in the same age groups

in 1960, in both counties there were rises beginning with ages 25-29 and extending to ages 45-49 before another significant downward trend appeared.

Lake County non-whites showed a similar leap from a height of 235 at ages 10-14 to 78 at ages 20-24, while the Sanders County drop from 63 at ages 10-14 to 24 at ages 20-24 was less pronounced, but afterwards, for both counties, there was a general downward trend all the way, with scarcely noticeable rises in the scale. After the 20-24 group, nowhere, to the end of the scale (85 and over), did the numbers in any age group exceed the numbers in the 20-24 group (Figure V, p. 55), whereas for whites in Lake and Sanders Counties there were emphatic ascents after ages 20-24.

Further, whites in Lake and Sanders Counties in the group 65 and over were 14.2 per cent of the total white population of Lake and Sanders Counties, while non-whites 65 and over in Lake and Sanders Counties were 6.55 per cent of the population total of non-whites in 1960, making it obvious that proportionately more whites lived longer than non-whites. This was a salient factor in the explanation of the median age differences between the two groups, for although the Indian average age at death had increased over the years, it was still below that of the whites.

Figures gathered from the Per Capita Dividend Payments rolls showed that from 1959 to 1963 the On Reservation population increased 4.43 per cent, but significantly, the Off Reservation enrollees increased 10.44 per cent. Certainly this had meaning for the study in

which we were engaged, especially when it was noted that the persons off the Reservation were old enough to have influenced the median age toward the lower end of the scale, (pp. 52-54).

It will be remembered from Figure V, p. 55, that there was a decided drop in the number of non-whites after age 14, and a constant downward trend thereafter. Then, too, Table X, p. 54, showed 445 persons off the Reservation between ages 0-13 and 1244 off the Reservation between ages 14-44 in 1960. Corresponding to this was an On Reservation population of 1336 between 0-13 years of age, but a drop to 1097 for ages 14-44. Figure VI, p. 56, showed that 53.20 per cent of Lake and Sanders Counties' non-whites 15 and over were on the Reservation, according to the Census Bureau, or 46.45 per cent according to the Per Capita Dividend Payments rolls, while whites 15 and over in Lake and Sanders Counties were 69.37 per cent of the total white population. In its simplest terms, there were more whites of advanced age than there were Indians of advanced age, actually and proportionately, and this burdened the median age for whites toward the higher end of the scale, while it lowered the median age for the Indians.

In addition to the high birth and death rates, the fact that many of the enrollees left the Reservation in early maturity was another factor which influenced the median age downward for the Indians. We saw in Chapter II, Section IV, that this was due largely to the lack of employment opportunities on the Reservation. Table VII, p. 18, showed that in 1963 the total employment was 798 of a labor force of 1326 on the Reservation, or just over 60 per cent of the labor force. Of the 798, 300 were permanently employed and the remainder had only

temporary employment. In other words, only 22.62 per cent of the total labor force had permanent employment, while 1026 were recurrently unemployed (this latter figure included the 498 enrollees who were temporarily employed). It should be no wonder, then, that many older persons left the Reservation each year to seek employment elsewhere, while younger persons were left on the Reservation. Yet, as I stated on p. 50, I do not believe that this was as important a factor as it might have appeared at first, but it did contribute to the lowering of the median age among the Indians on the Reservation.

Thus, in the light of the preceding information, I believe that the factors which best explained the low median age of the Indians as compared with the median age of whites were 1) the very high birth rate among the Indians, 2) the higher mortality rate among the Indians, infant mortality being somewhat offset by the high birth rate, and 3) migration of Reservation enrollees, but perhaps more importantly, migration of whites from Lake and Sanders Counties.

Relative to point 2) above, it should be noted that the rate of death from accidents was disproportionately high when compared with that of the white population in the nation in general (Tables XLVII and XLVIII, pp. 104-105). The Flathead Indian death rate from all accidents was almost four times greater than that for whites nationally, and the Indian death rate from automobile accidents was also approximately four times as high as that for whites nationally. All accidents caused the second highest number of deaths among the Flathead Indians, behind heart disease, and motor vehicle accidents were fourth on the list,



while for whites nationally they were fourth and sixth, respectively. Accident proneness, in any case, for any group or individual, is not a matter of "fate," "bad luck," "the toss of the coin," or "the way the cookie crumbles," but is the very real result of emotional, psychological, physiological, and sociological factors, acting singly or in combination. It would be interesting to discover just what effect these factors might have on the Flathead Indians' proneness to accidents.

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APPENDIX

TABLE XI. NUMBER OF BIRTHS, FLATHEAD INDIANS, 1959-1963

Average	1959	1960	1961	1962	1963	Total
135	117	137	142	126	146	688

Source: The Pathfinder, September-December 1964, p. 3.

TABLE XII. INFANT DEATHS AND AVERAGE DEATH RATE, FLATHEAD INDIANS,  
1959-1963

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	1959	1960	1961	1962	1963	Average
No. of Deaths	6	2	7	4	7	38.9

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Source: The Pathfinder, September-December 1964, p. 1.



TABLE XIII. NUMBER OF DEATHS BY AGE FOR ALL CAUSES, FLATHEAD INDIANS,  
1959-1963

Age	1959	1960	1961	1962	1963	Total
All Ages Total	32	24	34	34	37	161
Under 1 year	6	2		4		
1 - 4 years		1		2		
5 - 9 years					2	
10 - 14 years					1	
15 - 19 years			1		2	
20 - 24 years			1			
25 - 29 years		1	1	3	3	
35 - 39 years		1	2	3	3	
40 - 44 years	1		1			
45 - 49 years	2		1	5		
50 - 54 years	2	1		1	6	
55 - 59 years	3	2		3	2	
60 - 64 years	2	3	4	2	3	
65 and over	13	12	16	11	8	

Source: Vital Statistics, Billings Area Indians, Calendar Years  
1959-1963. The source is without page numbers and the material is  
spread throughout the work.

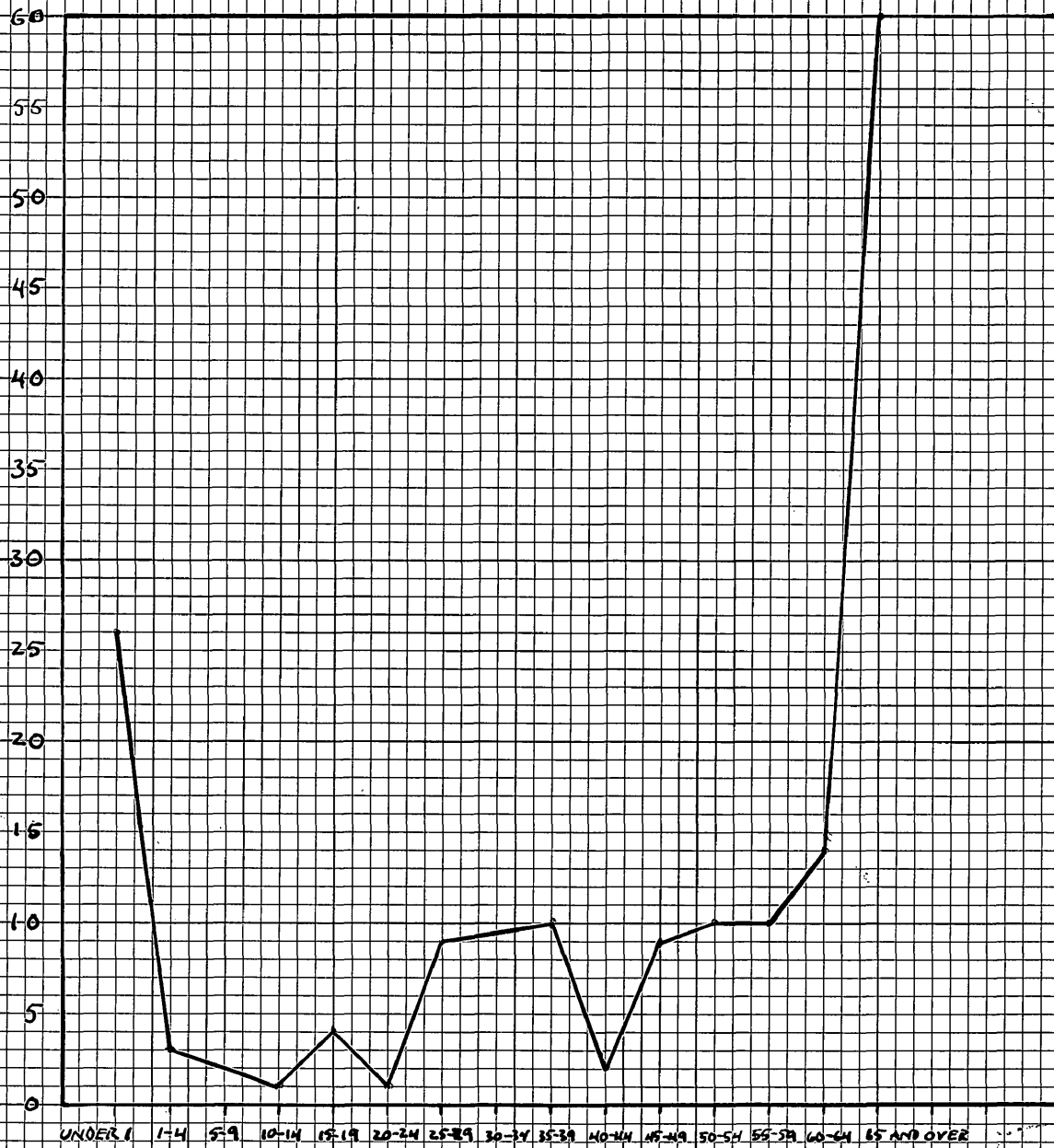


FIGURE VIII

NUMBER OF DEATHS BY AGE FOR ALL CAUSES, FLATHEAD INDIAN  
RESERVATION, 1959-1963

SOURCE: VITAL STATISTICS, BILLINGS AREA INDIANS, 1959-1963

TABLE XIV. DEATHS AND LIVE BIRTHS BY RACE, LAKE AND SANDERS  
COUNTIES, 1959

County	Deaths			Live Births		
	Total	White	Indian	Total	White	Indian
Lake	165	135	30	288	209	79
Sanders	90	90	--	168	152	16

Source: Montana State Board of Health. Annual Statistical  
Supplement, 1959, p. 5.

TABLE XV. DEATHS AND LIVE BIRTHS BY RACE, LAKE AND SANDERS  
COUNTIES, 1960

County	Deaths			Live Births		
	Total	White	Indian	Total	White	Indian
Lake	148	131	17	336	241	95
Sanders	79	78	1	159	139	20

Source: Montana State Board of Health, Annual Statistical  
Supplement, 1960, p. 5.

TABLE XVI. DEATHS AND LIVE BIRTHS BY RACE, LAKE AND SANDERS  
COUNTIES, 1961

County	Deaths			Live Births		
	Total	White	Indian	Total	White	Indian
Lake	154	126	28	282	190	92
Sanders	90	86	4	150	127	23

Source: Montana State Board of Health. Annual Statistical  
Supplement, 1961, p. 5.

TABLE XVII. DEATHS AND LIVE BIRTHS BY RACE, LAKE AND SANDERS  
COUNTIES, 1962

County	Deaths			Live Births		
	Total	White	Indian	Total	White	Indian
Lake	151	131	20	300	217	83
Sanders	78	72	6	132	113	19

Source: Montana State Board of Health. Annual Statistical  
Supplement, 1962, p. 5.

TABLE XVIII. DEATHS AND LIVE BIRTHS BY RACE, LAKE AND SANDERS  
COUNTIES, 1963

County	Deaths			Live Births		
	Total	White	Indian	Total	White	Indian
Lake	150	122	28	317	208	109
Sanders	70	65	5	147	136	11

Source: Montana State Board of Health. Annual Statistical  
Supplement, 1963, p. 5.

TABLE XIX. INFANT MORTALITY BY RACE AND AGE GROUP, LAKE AND SANDERS COUNTIES, 1959

County	Under 1 year		Under 28 days			1-11 months		
	Total	White Other	Total	White	Other	Total	White	Other
Lake	10	4 6	6	3	3	4	1	3
Sanders	3	3 -	1	1		2	2	-

Source: Montana State Board of Health. Annual Statistical Supplement, 1959, p. 25.



TABLE XX. INFANT MORTALITY BY RACE AND AGE GROUP, LAKE AND SANDERS  
COUNTIES, 1960

County	Under 1 year			Under 28 days			1-11 months		
	Total	White	Other	Total	White	Other	Total	White	Other
Lake	5	4	1	5	4	1	-	-	-
Sanders	6	6	-	3	3	-	3	3	-

Source: Montana State Board of Health, Annual Statistical Supplement,  
1960, p. 25.

TABLE XXI. INFANT MORTALITY BY RACE AND AGE GROUP, LAKE AND SANDERS COUNTIES, 1961

County	Under 1 year		Under 28 days			1-11 months			
	Total	White	Other	Total	White	Other	Total	White	Other
Lake	10	3	7	4	2	2	6	1	5
Sanders	1	1	-	1	1	-	-	-	-

Source: Montana State Board of Health. Annual Statistical Supplement, 1961, p. 25.

TABLE XXII. INFANT MORTALITY BY RACE AND AGE GROUP, LAKE AND SANDERS  
COUNTIES, 1962

County	Under 1 year		Under 28 days			1-11 months		
	Total	White Other	Total	White	Other	Total	White	Other
Lake	8	5 3	5	4	1	3	1	2
Sanders	2	2 -				2	2	

Source: Montana State Board of Health. Annual Statistical Supplement,  
1962, p. 25.

TABLE XXIII. INFANT MORTALITY BY RACE AND AGE GROUP, LAKE AND SANDERS COUNTIES, 1963

County	Under 1 year		Under 28 days			1-11 months			
	Total	White	Other	Total	White	Other	Total	White	Other
Lake	8	2	6	6	1	5	2	1	1
Sanders	1	1		1	1	-	-	-	-

Source: Montana State Board of Health, Annual Statistical Supplement, 1963, p. 26.

TABLE XXIV. NEONATAL DEATH RATES FROM CONGENITAL MALFORMATIONS,  
FLATHEAD INDIANS, 1959-1963

Average	1959	1960	1961	1962	1963
1.4	-	-	-	-	6.8

Source: The Pathfinder, September-December 1964, p. 6.

TABLE XXV. NEONATAL DEATH RATES BY CAUSE, BY AGE AT DEATH, FLATHEAD  
INDIANS, 1959-1963

Cause	Age at Death
Congenital Malformations	1.5
Immaturity	4.5
Birth Injuries	4.5
Postnatal Asphyxia and Atelectasis	3.0
Respiratory Diseases (includes Pneumonia of Newborn)	
Gastroenteric Diseases (includes Diarrhea of Newborn)	
Accidents	
All Other Causes	4.5

Source: The Pathfinder, September-December 1964, p. 5.

TABLE XXVI. NEONATAL DEATH RATES FROM IMMATUREITY, FLATHEAD INDIANS,  
1959-1963

Average	1959	1960	1961	1962	1963
4.5	8.2	-	7.0	-	6.8

Source: The Pathfinder, September-December 1964, p. 7.

TABLE XXVII. NEONATAL DEATH RATES FROM BIRTH INJURIES, FLATHEAD  
INDIANS, 1959-1963

Average	1959	1960	1961	1962	1963
4.5	8.2	7.5	-	-	6.8

Source: The Pathfinder, September-December 1964, p. 7.



TABLE XXVIII. NEONATAL DEATH RATES FROM POSTNATAL ASPHYXIA AND  
ATELECTASIS, FLATHEAD INDIANS, 1959-1963

Average	1959	1960	1961	1962	1963
3.0	6.2	-	-	17.9	-

Source: The Pathfinder, September-December 1964, p. 8.

TABLE XXIX. NEONATAL DEATH RATES FROM ALL OTHER CAUSES, FLATHEAD INDIANS, 1959-1963

Average	1959	1960	1961	1962	1963
4.5	-	-	7.0	-	13.7

Source: The Pathfinder, September-December 1964, p. 10.

TABLE XXX. PERCENTAGE DISTRIBUTION OF POSTNEONATAL DEATHS BY MONTH OF AGE AT DEATH, FLATHEAD INDIANS, 1959-1963

Age at Death	Percentage
28 days to 2 months	7.1
2 mos. to 3 mos.	14.3
3 mos. to 4 mos.	28.6
4 mos. to 5 mos.	
5 mos. to 6 mos.	7.1
6 mos. to 7 mos.	-
7 mos. to 8 mos.	28.6
8 mos. to 9 mos.	14.3
9 mos. to 10 mos.	
10 mos. to 11 mos.	
11 mos. to 12 mos.	
Total	100.0

Source: The Pathfinder, September-December 1964, p. 11.

TABLE XXXI. POSTNEONATAL DEATH RATES FROM ALL CAUSES, FLATHEAD  
INDIANS, 1959-1963

Average	1959	1960	1961	1962	1963
20.8	24.6	7.3	35.2	25.8	13.7

Source: The Pathfinder, September-December 1964, p. 11

TABLE XXXII. POSTNEONATAL DEATH RATES FROM GASTROENTERIC DISEASES,  
FLATHEAD INDIANS, 1959-1963

Average	1959	1960	1961	1962	1963
4.5	-	-	7.0	7.9	6.8

Source: The Pathfinder, September-December 1964, p. 12.

TABLE XXXIII. POSTNEONATAL DEATH RATES FROM RESPIRATORY DISEASES,  
FLATHEAD INDIANS, 1959-1963

Average	1959	1960	1961	1962	1963
5.9	8.2	7.5	-	-	13.7

Source: The Pathfinder, September-December 1964, p. 12.

TABLE XXXIV. POSTNEONATAL DEATH RATES FROM CONGENITAL MALFORMATIONS,  
FLATHEAD INDIANS, 1959-1963

Average	1959	1960	1961	1962	1963
1.5	-	-	-	7.9	-

Source: The Pathfinder, September-December 1964, p. 13.

TABLE XXXV. POSTNEONATAL DEATH RATES FROM ACCIDENTS, FLATHEAD INDIANS,  
1959-1963

Average	1959	1960	1961	1962	1963
4.5	-	-	21.1	-	-

Source: The Pathfinder, September-December 1964, p. 13.



TABLE XXXVI. POSTNEONATAL DEATH RATES FROM ALL OTHER CAUSES, FLATHEAD INDIANS, 1959-1963

Average	1959	1960	1961	1962	1963
5.2	16.4	-	7.0	7.9	-

Source: The Pathfinder, September-December, 1964, p. 13.

TABLE XXXVII. NUMBER OF DEATHS BY AGE FOR TUBERCULOSIS, FLATHHEAD INDIANS, 1959-1963

Age	1959	1960	1961	1962	1963	Total
All ages total	1		1	2	1	5
25 - 29 years				1		
35 - 39 years						
65 years and over	1		1	1		

Source: Vital Statistics, Billings Area Indians, Calendar Years 1959-1963

TABLE XXXVIII. NUMBER OF DEATHS BY AGE FOR MALIGNANT NEOPLASMS,  
 FLATHEAD INDIANS, 1959-1963

Age	1959	1960	1961	1962	1963	Total
All ages total	4	2	6	1		13
35 - 39 years			2			
50 - 54 years	1					
55 - 59 years	2					
60 - 64 years			1			
65 years and over	1	2	3	1		

Source: Vital Statistics, Billings Area Indians, Calendar Years  
 1959-1963

TABLE XXXIX. NUMBER OF DEATHS BY AGE FOR PNEUMONIA, FLATHEAD INDIANS,  
1959-1963

Age	1959	1960	1961	1962	1963	Total
All ages total	1	2			3	6
Under 1 year	1	1			2	
5 - 9 years					1	
65 years and over		1				

Source: Vital Statistics, Billings Area Indians, Calendar Years  
1959-1963.

TABLE XL. NUMBER OF DEATHS FOR GASTRITIS, DUODENITIS, ENTERITIS, AND COLITIS, FLATHEAD INDIANS, 1959-1963

Age	1959	1960	1961	1962	1963	Total
All ages total			1	1		2
Under 1 year			1	1		

Source: Vital Statistics, Billings Area Indians, Calendar Years  
1959-1963

TABLE XLI. NUMBER OF DEATHS BY AGE FOR NEPHRITIS AND NEPHROSIS,  
FLATHEAD INDIANS, 1959-1963

Age	1959	1960	1961	1962	1963	Total
All ages total	2					2
25 - 29 years	1					
55 - 59 years	1					

Source: Vital Statistics, Billings Area Indians, Calendar Years  
1959-1963

TABLE XLII. NUMBER OF DEATHS BY AGE FOR SYMPTOMS, SENILITY, AND ILL-DEFINED CONDITIONS, FLATHEAD INDIANS, 1959-1963

Age	1959	1960	1961	1962	1963	Total
All ages total				3	1	4
25 - 29 years					1	
35 - 39 years				1		
60 - 64 years				1		
65 years and over				1		

Source: Vital Statistics, Billings Area Indians, Calendar Years  
1959-1963

TABLE XL.III. NUMBER OF DEATHS BY AGE FOR VASCULAR LESIONS AFFECTING  
THE CENTRAL NERVOUS SYSTEM, FLATHEAD INDIANS, 1959-1963

Age	1959	1960	1961	1962	1963	Total
All ages total	3	2	2		2	9
50 - 54 years					1	
65 years and over	3	2	2		1	

Source: Vital Statistics, Billings Area Indians, Calendar Years  
1959-1963



TABLE XLIV. NUMBER OF DEATHS BY AGE FOR HEART DISEASE, FLATHEAD  
INDIANS, 1959-1963

Age	1959	1960	1961	1962	1963	Total
All ages total	7	7	6	8	11	39
35 - 39 years					1	
45 - 49 years		1		2		
50 - 54 years		1			1	
55 - 59 years				2	1	
60 - 64 years	1	1	2	1	3	
65 and over	5	4	4	3	5	

Source: Vital Statistics, Billings Area Indians, Calendar Years  
1959-1963.

TABLE XLV. NUMBER OF DEATHS BY AGE FOR MOTOR VEHICLE ACCIDENTS,  
FLATHEAD INDIANS, 1959-1963

Age	1959	1960	1961	1962	1963	Total
All ages total	2	2	2	1	4	11
Under 1 year			1			
15 - 19 years						
20 - 24 years						
25 - 29 years						
35 - 39 years						
45 - 49 years						
65 years and over	1	1			1	

Source: Vital Statistics, Billings Area Indians, Calendar Years  
1959-1963

TABLE XLVI. NUMBER OF DEATHS BY AGE FOR OTHER ACCIDENTS, FLATHEAD INDIANS, 1959-1963

Age	1959	1960	1961	1962	1963	Total
All ages total	1	2	3	4	5	15
Under 1 year			2			
1 - 4 years						
10 - 14 years						
15 - 19 years						
25 - 29 years						
50 - 54 years						
55 - 59 years						
60 - 64 years						
65 and over				1	1	

Source: Vital Statistics, Billings Area Indians, Calendar Years 1959-1963

TABLE XLVII. CAUSE AND NUMBER OF DEATHS, AND DEATH RATES, AMERICAN  
WHITES, 1959-1963

Cause of Death	Number	Rate
Heart Disease	3,007,514	3.7
Malignant Neoplasms	1,219,539	1.5
Vascular Lesions affecting the Central		
Nervous System	842,471	1.04
Accidents	403,897	0.4
Pneumonia	229,574	0.28
Motor Vehicle Accidents	172,478	0.21
Symptoms, Senility, and Ill-Defined		
Conditions	65,186	0.08
Nephritis and Nephrosis	51,258	0.06
Tuberculosis	37,473	0.04
Influenza	18,317	0.02
Gastroenteritis and Colitis	13,186	0.01

Source: Vital Statistics of the United States, 1959-1963, Vols. I  
and II.

TABLE XLVIII. CAUSE AND NUMBER OF DEATHS, AND DEATH RATES, FLATHEAD INDIANS, 1959-1963

Cause of Death	Number	Rate
Heart Disease	39	2.8
Accidents	26	1.9
Malignant Neoplasms	13	0.9
Motor Vehicle Accidents	11	0.8
Vascular Lesions affecting the Central Nervous System	9	0.6
Pneumonia	6	0.4
Tuberculosis	5	0.3
Symptoms, Senility, and Ill-Defined Conditions	4	0.2
Nephritis and Nephrosis	2	0.1
Gastroenteritis and Colitis	2	0.1
Influenza	2	0.1

Source: Vital Statistics, Billings Area Indians, Calendar Years 1959-1963

TABLE XLIX. CAUSE AND NUMBER OF DEATHS, AND DEATH RATES, AMERICAN NEGROES, 1959-1963

Cause of Death	Number	Rate
Heart Disease	286,850	2.9
Malignant Neoplasms	120,165	1.2
Vascular Lesions affecting the Central Nervous System	72,048	0.7
Accidents	61,141	0.6
Pneumonia	48,253	0.5
Symptoms, Senility, and Ill-Defined Conditions	52,550	0.3
Motor Vehicle Accidents	20,499	0.2
Nephritis and Nephrosis	13,874	0.1
Tuberculosis	11,760	0.1
Gastroenteritis and Colitis	7,053	0.07
Influenza	4,765	0.04

Source: Vital Statistics of the United States, 1959-1963, Vols. I and II.

TABLE L. MEDIAN AGES OF WHITES AND NON-WHITES IN TEN MONTANA COUNTIES,  
1960

COUNTY	ALL CLASSES			WHITE		NON-WHITE	
	TOTAL	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Big Horn	22.8	24.3	21.5	29.7	26.3	16.7	18.5
Blaine	25.3	26.9	23.6	31.3	27.5	14.5	14.6
Glacier	22.8	23.6	21.9	28.6	26.4	17.2	16.7
Hill	24.0	24.3	23.7	25.1	24.3	14.0	15.8
Phillips	28.9	30.0	27.5	30.5	27.9	22.3	21.3
Pondera	24.8	25.9	23.5	26.6	24.6	18.5	16.3
Roosevelt	22.9	23.6	22.3	26.6	25.0	16.3	15.9
Rosebud	26.5	27.3	25.8	32.0	29.9	15.6	16.1
Valley	23.4	24.3	22.1	24.6	22.4	20.6	17.6
Yellowstone	26.6	26.9	26.4	27.0	26.4	22.8	23.6

Source: U. S. Bureau of the Census. U. S. Census of Population: 1960.

Volume I, Part 28, p. 28ff.

TABLE LI. MEDIAN AGES OF RURAL WHITES AND NON-WHITES IN TWELVE  
SOUTHERN STATES, 1960

STATE	ALL CLASSES			WHITE		NON-WHITE	
	TOTAL	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Alabama	24.6	23.6	25.7	29.6	28.5	17.7	19.2
Arkansas	28.2	27.4	28.9	30.5	31.4	17.9	19.1
Florida	27.0	26.6	27.5	27.8	28.9	21.6	19.9
Georgia	24.1	23.2	25.3	25.7	28.1	17.6	18.6
Kentucky	25.7	24.8	26.7	24.8	26.7	24.6	25.9
Louisiana	23.3	22.5	23.9	26.0	26.9	18.0	18.8
Maryland	26.7	25.8	27.6	26.6	28.8	22.3	21.4
Mississippi	22.7	21.5	24.0	28.3	30.4	16.7	18.2
N. Carolina	24.2	23.2	25.2	25.5	27.8	17.5	18.1
S. Carolina	21.6	20.6	22.8	24.0	27.1	16.5	17.6
Tennessee	27.0	25.9	27.9	26.7	28.7	19.5	20.2
Virginia	25.9	25.2	26.6	26.6	28.2	21.0	20.6

Sources: U. S. Bureau of the Census. U. S. Census of Population: 1960. Volume I, Part 2, p. 2-28ff; Part 5, p. 5-31ff; Part 11, p. 11-33ff; Part 12, p. 12-37ff; Part 19, p. 19-28ff; Part 20, p. 20-28ff; Part 22, p. 22-23ff; Part 26, p. 26-27ff; Part 35, p. 35-36ff; Part 42, p. 42-23ff; Part 44, p. 44-32ff; Part 48, p. 48-32ff.



TABLE LII. NUMBER OF LIVE BIRTHS AND BIRTH RATES OF RURAL WHITES AND NON-WHITES IN TWELVE SOUTHERN STATES, 1960

STATE	TOTAL	WHITE	RATE	NON-WHITE	RATE
Alabama	38,926	24,210	23.0	14,716	34.4
Arkansas	21,774	15,024	18.6	6,750	51.1
Florida	55,840	45,070	41.7	10,770	51.1
Georgia	49,522	33,214	25.8	16,308	34.0
Kentucky	43,554	41,670	25.7	1,884	29.5
Louisiana	38,950	24,716	31.0	14,234	35.5
Maryland	42,904	38,012	52.9	4,892	38.0
Mississippi	36,996	15,130	20.6	21,866	34.9
N. Carolina	67,060	45,794	22.2	21,266	30.3
S. Carolina	12,932	9,202	10.8	3,730	6.7
Tennessee	44,208	38,452	25.0	5,756	34.6
Virginia	50,488	38,542	28.0	11,946	30.8

Source: Vital Statistics of the United States 1960, Volume I, Natality.

U. S. Department of Health, Education, and Welfare, Public Health Service, National Vital Statistics Division. Pp. 3-60 to 3-75.

TABLE LIII. TOTAL DEATHS AND RATES, AND INFANT DEATHS AND RATES OF RURAL WHITES AND NON-WHITES IN TWELVE SOUTHERN STATES, 1960

STATE	WHITE				NON-WHITE			
	TOTAL	RATE	INFANT	RATE	TOTAL	RATE	INFANT	RATE
Alabama	9,559	9.1	632	26.1	5,221	12.2	679	46.1
Arkansas	7,523	9.3	341	22.7	2,319	10.6	261	38.7
Florida	14,159	13.1	978	21.7	2,955	14.0	501	46.5
Georgia	11,026	8.5	750	22.6	5,261	10.9	831	51.0
Kentucky	15,243	9.4	1,084	26.0	837	13.0	103	54.7
Louisiana	7,237	9.1	507	20.5	4,399	10.9	720	50.6
Maryland	10,717	14.9	781	20.5	1,597	12.4	257	52.5
Miss.	6,993	9.5	396	26.2	6,813	10.8	1,197	54.7
No. Car.	16,424	7.9	995	21.7	6,409	9.1	1,137	53.5
So. Car.	7,436	8.7	540	23.8	5,709	10.3	897	50.0
Tennessee	15,140	9.8	1,001	26.0	1,976	11.8	275	47.8
Virginia	13,393	9.7	948	24.6	4,365	11.2	571	47.8

Source: Vital Statistics of the United States 1960, Volume II, Mortality, Part B. U. S. Department of Health, Education, and Welfare, Public Health Service, National Vital Statistics Division. Pp. 9-50 to 9-77.