RECENT TRENDS IN ZUNI JEWELRY

by

Kathryn Ann Sikorski

A Thesis Submitted to the Faculty of the
DEPARTMENT OF ANTHROPOLOGY
In Partial Fulfillment of the Requirements
For the Degree of
MASTER OF ARTS
In the Graduate College
UNIVERSITY OF ARIZONA
1958
STATEMENT BY AUTHOR

This thesis has been submitted in partial fulfillment of requirements for an advanced degree at the University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this thesis are allowable without special permission, provided that accurate acknowledgment of source is made. Requests for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the head of the major department or the Dean of the Graduate College when in their judgment the proposed use of the material is in the interests of scholarship. In all other instances, however, permission must be obtained from the author.

SIGNED: Kathryn A. Sikorski

APPROVAL BY THESIS DIRECTOR

This thesis has been approved on the date shown below:

CLARA LEE TANNER
Associate Professor of Anthropology

Date: Sept. 9, 1958
ACKNOWLEDGMENT

A generous Comins Fund grant enabled the author to meet the expenses of the research for this thesis. As this study is based primarily upon interviewing, it would also have been impossible without the kind help of many people. Mr. C. G. Wallace and Mr. M. L. Woodard of Gallup, besides granting interviews, allowed the author to photograph jewelry from their stocks. In addition, the following persons have been most generous with their time and knowledge:

Tucson: Mr. Tom Bahti, Dr. Edward Spicer, and Mr. and Mrs. John Tanner.

Gallup: Mr. Ransom Cooneyate (Zuñi), Mr. Malin Cousins, Mr. Frank Long, Mrs. Katy Noe, Mr. George Rummage, and Mr. Dan Simplicio (Zuñi).

Black Rock and Zuñi: Mr. Horace Aiuli (Zuñi), Mr. Harry Beardsley, Mr. Fred Bowannie (Zuñi), Mrs. Corcoran, Mr. Calvin Eustace (Zuñi), Mrs. Clara Gonzalez, Mrs. Sarah Jamon (Zuñi), Mr. Bowman Pewa (Zuñi), Mr. Leo Poblana (Zuñi), Mrs. Schray, Mr. Kay Tinnin, Mr. Charles Whitfield, and the Zuñi Council.

Albuquerque: Mr. John Adair, Mr. Bob Hooton, and Mr. John Wesley Poore.

Santa Fe: Mr. Paul Billheymer, Mr. Charles Minton, Mr. David Neumann, Mr. Stanley Stubbs, and Mr. Jimmy H. Yazzie (Navajo).
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Statement of Problems</td>
<td>1</td>
</tr>
<tr>
<td>Methods of Investigation</td>
<td>3</td>
</tr>
<tr>
<td>Limitations</td>
<td>6</td>
</tr>
<tr>
<td>I. THE HISTORY OF ZUNI JEWELRY</td>
<td>8</td>
</tr>
<tr>
<td>Before Commercialization</td>
<td>8</td>
</tr>
<tr>
<td>1920 to 1930</td>
<td>9</td>
</tr>
<tr>
<td>1930 to World War II</td>
<td>10</td>
</tr>
<tr>
<td>World War II to Present</td>
<td>12</td>
</tr>
<tr>
<td>II. MATERIALS</td>
<td>14</td>
</tr>
<tr>
<td>Turquoise</td>
<td>14</td>
</tr>
<tr>
<td>Silver</td>
<td>16</td>
</tr>
<tr>
<td>Shell and Coral</td>
<td>17</td>
</tr>
<tr>
<td>Jet</td>
<td>18</td>
</tr>
<tr>
<td>III. DESIGN AND FORMS</td>
<td>19</td>
</tr>
<tr>
<td>Esthetic Background</td>
<td>20</td>
</tr>
<tr>
<td>Main Categories</td>
<td>22</td>
</tr>
<tr>
<td>Large-Stone Jewelry</td>
<td>23</td>
</tr>
<tr>
<td>Small-Stone Jewelry</td>
<td>25</td>
</tr>
<tr>
<td>Inlay</td>
<td>31</td>
</tr>
<tr>
<td>Channel</td>
<td>34</td>
</tr>
<tr>
<td>Nugget</td>
<td>39</td>
</tr>
<tr>
<td>Lesser Categories</td>
<td>41</td>
</tr>
<tr>
<td>Sources of Designs</td>
<td>42</td>
</tr>
<tr>
<td>Range of Products</td>
<td>44</td>
</tr>
<tr>
<td>Summary</td>
<td>45</td>
</tr>
<tr>
<td>IV. THE JEWELRY INDUSTRY AT ZUNI</td>
<td>46</td>
</tr>
<tr>
<td>Apprenticeship</td>
<td>46</td>
</tr>
<tr>
<td>Technology</td>
<td>47</td>
</tr>
<tr>
<td>Psychological Factors</td>
<td>54</td>
</tr>
<tr>
<td>V. ECONOMIC FACTORS AT ZUNI</td>
<td>56</td>
</tr>
<tr>
<td>Alternate Income Sources</td>
<td>56</td>
</tr>
<tr>
<td>Selling Jewelry</td>
<td>58</td>
</tr>
<tr>
<td>Chapter</td>
<td>Page</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Depressed Prices</td>
<td>62</td>
</tr>
<tr>
<td>Traders' Problems</td>
<td>64</td>
</tr>
<tr>
<td>Summary</td>
<td>65</td>
</tr>
<tr>
<td>VI. THE MARKET AND THE IMITATORS</td>
<td>67</td>
</tr>
<tr>
<td>The Buying Public</td>
<td>67</td>
</tr>
<tr>
<td>Imitations</td>
<td>70</td>
</tr>
<tr>
<td>Educating the Public</td>
<td>76</td>
</tr>
<tr>
<td>VII. PROSPECTS FOR THE FUTURE</td>
<td>79</td>
</tr>
<tr>
<td>VIII. SUMMARY AND RECOMMENDATIONS</td>
<td>84</td>
</tr>
<tr>
<td>Summary</td>
<td>84</td>
</tr>
<tr>
<td>Recommendations for Future Research</td>
<td>85</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>103</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table 1. COMPARISON OF TIME AND MONEY EXPENDITURE WITH PRICE PAID JEWELER  

           Page
2. CURRENT RANGE OF STORE PRICES FOR SMALLER ZUNI JEWELRY  68
# LIST OF ILLUSTRATIONS

<table>
<thead>
<tr>
<th>Figure</th>
<th>Illustration</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bracelets</td>
<td>87</td>
</tr>
<tr>
<td>2.</td>
<td>Bracelets</td>
<td>88</td>
</tr>
<tr>
<td>3.</td>
<td>Various pins</td>
<td>89</td>
</tr>
<tr>
<td>4.</td>
<td>Various pins</td>
<td>90</td>
</tr>
<tr>
<td>5.</td>
<td>Earrings</td>
<td>91</td>
</tr>
<tr>
<td>6.</td>
<td>Earrings</td>
<td>92</td>
</tr>
<tr>
<td>7.</td>
<td>Rings</td>
<td>93</td>
</tr>
<tr>
<td>8.</td>
<td>Small-stone necklaces</td>
<td>93</td>
</tr>
<tr>
<td>9.</td>
<td>Small-stone necklaces, chiefly in triple links</td>
<td>94</td>
</tr>
<tr>
<td>10.</td>
<td>Squash-blossom necklaces</td>
<td>95</td>
</tr>
<tr>
<td>11.</td>
<td>Large-stone pendant necklaces</td>
<td>96</td>
</tr>
<tr>
<td>12.</td>
<td>Inlay squash-blossom necklaces</td>
<td>97</td>
</tr>
<tr>
<td>13.</td>
<td>Simple, geometric inlay necklace</td>
<td>98</td>
</tr>
<tr>
<td>14.</td>
<td>Channel squash-blossom necklaces</td>
<td>98</td>
</tr>
<tr>
<td>15.</td>
<td>Channel link necklaces</td>
<td>99</td>
</tr>
<tr>
<td>16.</td>
<td>Nugget necklaces</td>
<td>100</td>
</tr>
<tr>
<td>17.</td>
<td>Belt sets</td>
<td>100</td>
</tr>
<tr>
<td>18.</td>
<td>Concho belts</td>
<td>101</td>
</tr>
<tr>
<td>19.</td>
<td>Concho belts</td>
<td>102</td>
</tr>
</tbody>
</table>
INTRODUCTION

Statement of Problems

The choice of Zuñi jewelry as a thesis topic was based on several considerations. One of these was the author's personal interest in, and brief experience with the making of handicrafted jewelry. Another reason was the scarcity of current literature on the subject and certain shortcomings of two works that previously discussed it, Adair's *The Navajo and Pueblo Silversmiths*, published in 1944, and Kirk's 1945 article in *El Palacio*, "Southwestern Indian Jewelry." Although both of these included excellent material on the history of Southwestern jewelry development and the economic aspects involved, neither treated Zuñi jewelry exclusively, and neither gave full discussion of the then current range of designs and forms. An awareness of considerable change in this craft plus its increased commercialization led the writer to believe that there would be value in a comprehensive survey of the latest products and the changes they represent.

Certain problems in esthetics suggested themselves. One of these was the question of how much authentic Zuñi esthetic taste remains in the jewelry after long contact
with commercial White interests. Also, there is the related
problem of how successfully the Zuñi design standards are
modified to suit the buying public and general canons of good
taste. Studying Zuñi design in other products reserved for
their own use, such as the brilliant dance masks, the eye is
captured by the strongly contrasting colors, a fanciful
stylization of faunal or human features, and a multiplicity
of detail. It is a bold, skillful, exciting art. At the
same time, it is foreign to our own European-rooted art
standards -- we admire but do not wish to emulate. Accord­
ingly, the problem of the success of Zuñi jewelry in
attempting to bridge this esthetic gap is an interesting
phase of inter-cultural understanding.

The economic aspects of this particular craft was
another research objective. Adair's book disclosed that
during the period of his study (1937 to 1940), the highest
annual return for jewelry-making to Zuñis was about $1000,
with the average figure much lower, depending upon how much
time was spent at this activity. Another aim of this thesis,
therefore, was to discover whether this scale of reimburse­
ment, low by White standards, had been improved. If not,
other factors would have to be sought to explain the survi­
val of this craft after twenty years of advancement toward
our own standard of living.

Following Adair's example, this study was also
intended to depict what the craft means to the Zuñis. This involves its demands upon the craftsmen in skill, technology, and patience. The jewelry industry's effects on the whole prosperity of the Pueblo as well as on the individual craftsman and his family were to be explored. Closely tied up with all these matters, of course, is the nature of the relationship between the Zuñis and the traders and dealers.

In view of the wide-scale tendency of various Indian crafts to dwindle relative to increasing contact with the White economy, the prospect for the survival of Zuñi jewelry was another problem. Along with this is the question of whether, in the face of the obviously greater efficiency of machine production, this handicraft is worth preserving. The factors involved in its continued survival, and the means of assuring its continued existence, granting its worthiness, were to be investigated. These considerations involve manufactured imitations and the legislation aimed against them, public intelligence about Indian handicrafts, and improved economic standards for the craftsmen.

Methods of Investigation

Besides the above cited writings of Kirk and Adair, Adair's Report to the Arts and Crafts Board on Silver Production of the Southwest is valuable for presenting the numbers of Zuñi silversmiths in 1941, their selling methods and
incomes, and the manufacturers' technology for producing competitive, cheaper, pseudo-Indian jewelry. Since the pre-1920 developments have been so ably developed by these two authors, the present discussion deals but briefly with the earliest periods, preferring to stress the shifts and increases in design following 1920, as well as related matters. The other sources used touched only lightly on the core of this inquiry. Most of the information was derived from interviews pursued during two months of investigation, spent mostly in Gallup and Zuni, but also including Albuquerque and Santa Fe. An effort was made to approach a number of separate groups so as to give a number of approaches full hearing. These groups included:

1. Traders and dealers, especially those dealing directly with Zunis.
2. Zuni craftsmen and tribal leaders.
3. Interested Whites, other than traders and dealers.

The first group, traders and dealers, was first interviewed for their estimates of the present and future strength of the Zuni jewelry industry. They outlined their problems in this business: conditions of working with freelancing Zuni craftsmen, competition from White sources, seasonal shifts in selling power, and the varying interest and understanding of the buyers. Information on the materials used, their sources, and their distribution to
the jewelers was gathered from this group.

The Zuni craftsmen contributed invaluable details on the technology of various articles commonly made by them, including their tool inventories. They related their personal estimations of the exacting demands of their craft, their dealings with the traders, and their selling and income problems. The involvement of their families in the production of jewelry and the nature of apprenticeship were also discussed.

The remaining group included Department of Interior and Zuni Agency personnel, museum workers, an attorney, the head of the New Mexico Association on Indian Affairs, and some White artists and craftsmen. These people contributed information as varied as their interests: economic factors, design evolution and criticism, advice on improved legislation, and predictions about the future of the craft.

The interviewing problem was approached with great inexperience, and the method was developed gradually. No standard question-and-answer sheet was presented to all persons interviewed, as the writer believes this system to be contrary to the informal social exchanges of Northwestern New Mexico. Each first meeting was viewed not so much as a source of information as a chance for establishing rapport and assessing the direction of the informant's interests with regard to Zuni jewelry. Subsequent interviews were based on a brief list of questions that took
into consideration the informant's personal interests and the direction of his knowledge. Writing was held to a minimum during the interviews as it was considered a hindrance to the free flow and exchange of ideas and would have taken more of the informant's time. All important data was set down as soon as possible after the interview. Questions were carefully prepared in advance and introduced into the conversation at their most logical time. Crucial questions and ones likely to be a matter of opinion were widely repeated to various individuals, and such cross-questioning was pursued in all areas of investigation. An effort was made to avoid phrasing the questions in a way that suggested the investigator's own views, to preclude the possibility of "putting answers" into the informant's mind. Much time between interviews was spent assessing information after it was secured, correlating it with previously received data and phrasing new questions to fill in gaps. This method, with directioning held to an unobtrusive level in interviewing but followed strongly at other times, allowed the informant to introduce new aspects to the problems being discussed and expanded the original framework of the investigation in several directions.

Limitations

An unavoidable deficiency of this paper is an
inadequate sampling of interviews with Zuni craftsmen, particularly female ones. It was the misfortune of the writer to arrive at Zuni at a period when feeling was aroused against anthropologists in general due to the testimony of two of them at a current trial about imitation Indian jewelry. The pros and cons of this hostility have no place in this thesis except insofar as they affected the writer's reception. The Zuni Tribal Council had issued a blanket denial of permission to anthropologists to investigate the subject of silversmithing. After several meetings with the Governor and the Council at Zuni, very limited privileges were granted, with the result that only five formal interviews were arranged in the Pueblo. However, the writer had already interviewed two Zunis in Gallup and one, informally, at Zuni, before coming up against any restrictions. The Council's decisions, nonetheless, prevented the interviewing of enough Zuni craftsmen to describe adequately such factors as time expenditure, income, specialization, and selling methods.
CHAPTER I
THE HISTORY OF ZUNI JEWELRY

Before Commercialization

The Hawikuh finds illuminate Zuni preferences in jewelry in late prehistoric times. Ear pendants, gorgets, and hair combs were found that were incrusted with mosaics of turquoise pieces set in pinyon gum. More or less regularly aligned, these turquoises were sometimes accented with pieces of jet or shell. A large variety of drilled turquoise disk-beads were also discovered here (Hodge, 1921).

Adair gives the decade from 1830 to 1840 as the probable period for the first use of metal at the Pueblo. Using brass and copper the earliest Zuni smiths made crude, filed jewelry, some of it for Mexicans, and including rings, bracelets, buttons, and crosses. In 1872 a Navajo, Atsidi Chon, taught a Zuni, Lanyade, to work silver, the first of his tribe to do so. Lanyade subsequently made hollow beads, bow-guards, buttons, bracelets, and earrings. All of unset silver. Whether from independent invention, or another Navajo contribution in knowledge, turquoises were first set

1In Chapter III, the history of the development of specific designs and techniques is explained under their separate headings.
in Zuñi silver in 1890. Adair confirms the fact that these first settings were of relatively large stones, with no more than half a dozen in a piece. An increased supply of turquoise and the introduction of better tools by traders gradually changed the character of Zuñi jewelry until, by 1910, multiple settings of turquoise ornamented all Zuñi jewelry of that time: buttons, bracelets, earrings, bow-guards, conchas, squash-blossoms, rings, and buckles (Adair, 1944:111-134).

1920 to 1930

The commercialization of Zuñi jewelry for the White trade was initiated about 1920, when local traders, Mr. G. G. Wallace and Mr. Charles Kelsey, promoted the industry in response to an increasing tourist demand for Indian jewelry. In 1920 there were only about eight smiths, and in this period Mexican pesos were the source of silver. Although it is now usual for a Zuñi smith to learn his trade from his father or a close relative, so many Zuñis were eager to learn jewelry-making in the years following 1920 that Horace Aiuli taught the craft in the day school for about eight years. Only large-stone and small-stone jewelry were made at this time, in row and cluster arrangements.
1930 to World War II

About 1930 the Mexican government stopped the export of the silver pesos the silversmiths had been using. Traders arranged for silver slugs of comparable size, weight, and quality to be used in their stead. Like the peso, these were melted down and hammered into the desired thickness. In 1932 Harold Ickes successfully sponsored a law that forbade the sale of imitation Indian jewelry in national parks and monuments, a factor which helped the genuine Indian jewelry business to prosper. During the difficult depression years, traders made gifts to their smiths of small, inexpensive chips of turquoise and started them making miniature jewelry which enjoyed a temporary vogue. Another boost to the industry was tax exemption for the genuine handmade products, granted in 1937.

The Indian Arts and Crafts Board was instituted in 1938, and it soon started guilds for the training of silversmith apprentices, with a minimum wage scale for the trained smiths. This development, however, affected Navajo but not Zuñi silversmiths. A stamping system was initiated, designed to assure the buyer of high-quality Indian jewelry and to protect both him and the craftsman from machine-made imitations. Jewelry that met the Board’s standards was stamped "U.S. NAVAJO" or "U.S. ZUÑI," accompanied by a number designating the school or trading post where it was
made. Traders criticized the Board's stipulations as over-antiquarian and restrictive. The craftsman, for instance, was not allowed to use sheet silver or other than hand-operated lapidary equipment to justify the classification as "handmade." Because of the nuisance of having to stamp the jewelry after completion, endangering its settings and finish, and because the markings were imitated by the machine manufacturers and not widely understood by the public, the stamping system was eventually discarded. Further criticism of the Board was that, while government-subsidized, it promoted a demand for higher pay by the silversmiths at the same time that the traders had to compete with cheaper imitations.

In 1941 it was claimed by one dealer that the California markets were so filled with imitation Indian jewelry that the buying public did not recognize the genuine article when it could be seen (Adair, 1941:39). At this time it was also felt that Zuni jewelry was relatively safe from the encroachment of this threat since the multiple sets would be too costly to reproduce cheaply (Adair, 1944:171). This period saw the revival of the ancient mosaic in the form of multicolored "inlay" work. Towards its close, channel work also began to be made.
World War II to Present

During World War II, Zuñi men were called into the armed services and became unofficial advertisers for their special style of jewelry. In their absence, more women took up the craft than had previously, although there had always been more female silversmiths, proportionately, among the Zuñis than among the Navajos. Another impetus for the industry was received from the government in the form of a priority for silver, a privilege not extended to the imitators. With costume jewelry production and imports decreased due to metal shortages, Indian jewelry enjoyed an increased demand.

Today there are probably more than 1000 persons making jewelry at Zuñi, with an estimated 50% of it made by women. Current figures obtained at the Zuñi Agency estimate that 80% of the family groups, or about 570 of the total of 714, produce jewelry. Technology has changed extensively since Adair's book was written. The Arts and Crafts Board reversed its views on sheet silver and began to encourage its use. Many traders who had also discouraged it gradually came to agree that sheet silver would not violate the hand-craft quality of Indian jewelry. Now all silver used by Zuñis is sold in sheets of various gauges, along with wire in a variety of shapes. Electricity-driven lapidary wheels supplement or replace older, hand-operated ones. All these
improvements mean quicker, more efficient output for the craftsman, better enabling him to compete with the manufactured imitations. The demand for Zuñi artistry in silver, stone, and shell is, according to the traders and dealers, strong and steady. Started by tourist interest, this business is still largely tourist-based; some of the best markets are the resort cities of the Southwest. Most of the jewelry is sold west of the Mississippi, and there is still a large segment of the population that is largely ignorant of the Indian product. Their contact with it, if any, is likely to be through machine-made imitations. These have been able to duplicate certain Zuñi pieces, complete with tiny sets, contrary to earlier hopes.
Zuni jewelry, like the Navajo, is characterized by the use of silver and turquoise as the primary materials, but differs in using more turquoise, proportionately, than silver. Furthermore, Zuni jewelry also includes jet, coral, and various colored shells as frequent alternates to the familiar silver-turquoise combination.

Turquoise

Turquoise has long been the favorite gemstone of the Zunis. At Hawikuh, it is used to a far greater extent than the jet and shell which are also present. It was found not only in jewelry, but also along with other ceremonial items, quartz crystals and white paint, in a skin bag. Hodge reports other occurrences of turquoise in such sacred caches (Hodge, 1921:16). Turquoise also figures in Zuni mythology in tales that illustrate its preciousness and the care with which it must be treated. Thus, Turquoise Man and Salt Woman, annoyed because their "flesh" is used wastefully and irreverently by the nearby Zunis, move far away to teach the people proper discretion (Benedict, 1935:43-49). Another
story along similar lines depicts turquoise moving into a mountain, protected by bears (Stevenson, 1904:60). This stone has been said to symbolize, variously, the West, the zenith (Hodge, 1921:7), a gift from the sky, and protection from evil (Kirk, 1945:31). Whatever its place in current ideological systems at Zuñi, and despite its far greater accessibility today than a half century ago, it remains precious to Zuñis.

Turquoise is a phosphate with a hardness of 6, and a waxy luster. A relatively soft stone, it is affected by acids, strong chemicals, and skin oils. Continued wearing may change the color of the stone to a greener shade, but scratches are somewhat offset by its opaqueness and soft luster. Veinlets of matrix are found in almost all specimens, and are more probable the larger the stone. These often form interesting patterns, a favorite being seen in the Spider-web stone's fine-lined, multicellular effect (Fig. 16B). Color ranges in a graduating series between blue and green. Blue has been preferred for jewelry, so that little green is now seen, although at certain periods and in some areas it enjoyed a popularity of its own. Robin's-egg blue, a deep, rich blue-green, is regarded highly, but a more common favorite color is a clear, medium blue. The bluest of turquoises, however, retains an element of blue-green.

It is no accident that turquoise is synonymous with Southwestern Indian culture since pre-Spanish times. By a
geological propensity, it is found only in dry regions such as our Southwestern states, as well as Tibet and Iran. Present sources of turquoise for Zuñi craftsmen, through their traders, are mines in Nevada, Colorado, Arizona, and California, each yielding a particular color and grade of stone. Some turquoise naturally fades after mining.

Poorer grade turquoise, too light in color to sell well, because of its porosity, lends itself to being "doctored" to a richer color by the application of grease, paraffin, or even water combined with deep-freezing. These products later fade, and dealers and Zuñis alike must guard against being deceived by them. The turquoise is sold by the ounce to the craftsmen in the form of rough nuggets.

Silver

Coin silver has been almost entirely supplanted by sterling silver in Zuñi jewelry, a difference between 900 and 925 fine, respectively, 1000 fine representing pure silver. Being softer, sterling silver is easier to work with, takes a higher polish, and is more familiar to the general buyer. Although in the past silver was sold to the Indians in slug form, to be cast or hammered by them into the required thickness, currently all silver is sold in the form of standard-gauged sheets and wires. Wire can be bought in several shapes: round, half-round, square, triangular,
and beaded. As with turquoise, silver is bought by the ounce. For casting, there is the option of buying scrap silver at a lower cost.

Shell and Coral

A variety of shells are available for inlay and channel work. Pink and white shells, their ribbed outer surfaces ground and polished, are supplied from various fresh and salt water sources in this country. Occasionally yellow shell is also used. Red-colored shell is obtainable from the abalone, occurring in a layer which varies in thickness and depth of color from shell to shell. It is also secured from the old favorite, the spiny oyster, which is, however, very expensive at present. Another layer of the abalone shell yields an iridescent grey color. The Pacific Coast of the United States supplies the abalone shell while the spiny oyster may come from Mexico.

Coral is another favorite marine product. In its rich oxblood shade it is a prominent competitor with red shell in channel and inlay work. Also, twigs of it are used in their natural contours as the basis for a special type of nugget work. Coral is imported from the Mediterranean, Japan, or other Asiatic areas. Sometimes the paler orange-pink shade is used instead of the deeper color.
Jet

Finally, black, for a stabilizing contrast to the other brilliant materials, is provided by jet. This mineral is a special form of lignite or anthracite, with sources in New Mexico, Utah, and England. Together with the other stone and shell it forms the favorite four-colored combination for inlay, of which Kirk states, "these represent the sacred colors of the four directions: the white shell for East, abalone for South, jet for North, and turquoise for West," (Kirk, 1945:43). She refers to the red abalone, and red coral is also used with this connotation.
 CHAPTER III  
DESIGN AND FORMS  

Considering the variety of forms it takes today, Zuni jewelry is not easily summarized by a single phrase. It has been called delicate or fussy in design, and it has been said that the silver only serves to hold the stones in place. Much of Zuni jewelry has a delicate quality, the result of a preoccupation with repeated small elements: tiny drops (small bits of silver in spherical or stamped form), small stones, finely-notched bezels, and narrow, twisted wire. However, most channel bracelets cannot be so categorized; their designs are regularly simple and sometimes bold in color contrasts.

The role of silver has often been underrated. It is traditionally indispensable in row and cluster work in the form of supplementary design elements: drops, twisted wire, and notched bezels. In channel work it is an effective foil for the colors of the stones it frames, and in nugget and large-stone work it often shares prominence with the turquoise and coral. Wherever it is used, it is as a well-integrated contrast to the settings. It is true that the stone or shell settings dominate in Zuni jewelry and, in fact, the Zuni is satisfied to dispense with the metal component entirely to
wear strung beads of rich-colored turquoise.

To characterize Zuni jewelry briefly, it can be said that settings of stone and/or shell dominate the design, with turquoise as the predominant material. The silver serves as both the backing and supplementary design component in various shapes, some of which are customary accompaniments of certain styles.

Esthetic Background

There is little one-to-one relationship in design between different crafts, largely because the medium to some extent dictates the kind of ornamentation used. Some would deny that modern Zuni jewelry, borrowing so largely from Navajo, Spanish, and innumerable modern sources, has anything distinctively Zuni about it, with a possible exception in designs directly borrowed from ceremonial art. Considering, however, that traders try to preserve an authentic flavor and generally leave the main evolution of design to the Indian, the author suggests that Zuni jewelry reflects its origins. It would be well to explore the "esthetic climate" of Zuni for an explanation of tendencies apparent in today's jewelry.

Ceremonial masks have been, and still are, a form of ornamentation very familiar to the Pueblo. Some of the current inlays are direct representations of dance masks.
and costumes. These masks have what, for want of a better descriptive term, might be called a "barbaric splendor," reminiscent of oriental dragons. Color contrasts are vivid and dramatic, somewhat restrained by precise geometric lines and textural contrasts from feathers, wigs, fur, and the like. Embroidered cotton kilts have similar vibrant coloring in elaborate geometric designs. An interesting comment on woolen mantas was made by Mera who noted that, while Zuni cotton kilts closely resembled those of other Pueblos, their woolen mantas were distinctive. He says, "it is quite obvious that the less ornate was preferred" (Mera, 1944:70). These mantas use simple geometric units almost exclusively, generally triangles and diamonds.

Pottery designs are far less colorful than those of masks and clothing; here the emphasis is on line. Bunzel notes, "geometrical patterns constitute the greater part of the present collections" (Bunzel, 1929:24). There are few representational motifs and these are often highly stylized: deer, birds, dragonflies, butterflies, and the sunflower medallion. The patterning over the jar surface is one of a variety of design elements: steps, triangles, spirals, squares, diamonds, and circles. These are repeated at intervals, with many open areas, but no extensive ones. Summarizing Zuni taste in ornamental design, it is based on:

1. Strong color contrasts
2. Geometric shapes
3. Space-filling details

All of these conditions are met in Zuni jewelry, with varying stress from piece to piece.

Main Categories

The whole assortment of Zuni jewelry, while bewildering at first glance, falls generally into a limited number of categories:

1. Large-stone
2. Small-stone
3. Inlay
4. Channel
5. Nugget

Although technology will be more fully explained in Chapter IV, it is important to understand the main structural differences which lend individual character to these various types of jewelry. Large-stone and small-stone jewelry differ technologically only in the obvious differences in the size of the stone and that large stones may be used singly while small ones are used in groups. In both cases the individual stones are set into separate bezels. In the so-called "inlay" jewelry, a multicolored surface is formed by the cutting of separate pieces of stone and shell to fit contiguously, and the whole mass of stones is later set into a
single bezel. Channel work designates the soldering of a cellular arrangement of silver bezels onto a silver backing and the setting of stone or shell into all the spaces so formed. The surface of channel work may be polished flush, like inlay, or with the stones raised above the bezels. An important difference between channel and small-stone jewelry with close-set bezels is that in channel the settings "share" the housings, and are not separately outlined by them.

Large-Stone Jewelry

Origins. Large-stone was probably the earliest form of Zuni jewelry combining silver and turquoise. Many factors indicate that Zunis learned silversmithing and jewelry from the Navajos. Adair's evidence for this is considerable (Adair, 1944:122-127). This origin is confirmed by the appearance of the earliest Zuni bracelets which are scarcely distinguishable from contemporaneous Navajo ones. When they are discernible, it is because the Zuni variety displays more stones and lighter-weight silver.

According to Kirk, the first Zuni bracelets she saw were row bracelets of flat-topped stones, cut like those used for beads, and sometimes retaining drill-holes. These were followed by bracelets with many rows of stones, now round-topped, and by clustered settings (Kirk, 1945:42). An early Zuni bracelet among Adair's illustrations is of
flat-topped stones, no two alike and all large (Adair, 1944: Pl. 10F). As Zuni jewelry became divergent from the Navajo, settings grew smaller and were better polished. Helped by the introduction of improved silversmithing and lapidary equipment as commercialization progressed, Zuni jewelry became truly dainty in many cases.

**Uses.** Today, large-stone jewelry is in a minority class in the total range of Zuni products. It can be seen in certain necklaces, either of the squash-blossom or pendant styles (Figs. 10B and C, and 11). It is a component of nugget jewelry and some of the smaller pieces, such as rings, earrings, pins, and cuff links (Figs. 2D, 3B, 4C, 6B, and 7). In the large-stone squash-blossom necklaces, silver is extensively used in stamped wire borders and cast or stamped petals. In pendants, pins, and rings, the large single stone is accented with ornate borders of stamped silver or wire (Figs. 3B, 4C, and 11B). Some of the stones are cut in leaf forms with vein-like grooving radiating from the centers (Fig. 11A).

Two squash-blossom examples illustrate the great variability within this classification. The one in Figure 10B has leaf-cut stones and stamped petals representing, but scarcely resembling, squash-blossoms (considerable expert opinion identifies the flower represented as actually a pomegranate blossom). The naja has similar stones and a
stamped, fan-shaped element. The squash-blossoms in Figure 10C are closer to the original blossom in appearance and are cast in one piece, with the stamped drops and large stones added later. The naja, not as pleasantly designed, contains an assortment of odd-shaped stones, much like those in early Zuñi bracelets, with stamped wire and drop additions.

Small-Stone Jewelry

Origins. Stones became progressively smaller with the introduction of better tools. Early rings in the Laboratory of Anthropology in Santa Fe, dating from the 1920's and 1930's, have small stones arranged in rows and clusters, accompanied by plain drops and unnotched bezels. Earrings bore similar groupings, but also featured other arrangements including the rainbow god made by Della Casa. These daintily contrived earrings used tiny dangles in a wonderful array of stamped, cylindrical, or stone-set forms. The plain silver backing, however, was not artistically integrated with the stones, but served merely to hold them in place. Such earrings became an indispensable part of the Zuñi woman's costume (Adair, 1944:133-134). To this day, Zuñis prefer their jewelry set with massed small stones, and the bulk of jewelry worn in their dances is of this kind. Turquoise is used almost exclusively for small-stone jewelry, with rare exceptions, e.g., the coral cluster earrings in Figure 6A,
Row bracelets. Set in regular lines, the small stones make up the now familiar row bracelet, which may contain from one to five or more bands of settings (Fig. 1B). Matched for color, the stones may be round, square, needle-point, or, more rarely, diamond or nugget-cut. The last term is used in the industry to refer to irregularly shaped but polished stones, while "needlepoint" stones are narrow with pointed ends. Each stone is flanked by adjoining rows of silver drops which measure the distance between the rows of stones. Very early bracelets of this type show the same composition although the housings are unnotched, and both stones and drops are considerably larger. Such conservatism is also evident in the tendency to retain a definite proportion between the sizes of the two latter elements; the two bracelets in the lower half of Figure 1B furnish contrasting examples. Linear alignment can also be found in rings, as on earlier counterparts (Fig. 7, lower right), or on tops of combs or tiepins.

Some row bracelets are monuments to patience and skill. The bracelet in Figure 1B, upper right, displays four rows of 19 stones each, a total of 76. One ring is set with 80 stones within a rectangular space of one inch by seven-eighths of an inch. The smaller stones call for smaller drops, with the result that the latter may be the size of tiny seeds.
Cluster. Horace Aiuli recalls making cluster rings and bracelets of only one or two rows\(^1\) in 1927. Early cluster bracelets are illustrated in the *Arizona Highways* March, 1935 and October, 1936 issues, and on the cover of the February, 1945 issue of *El Palacio* which begins Kirk's "Southwestern Indian Jewelry" article. These are simple, one or two-row bracelets with comparatively large stones. Kirk calls the cluster a flower-like arrangement, and perhaps it has affiliations with the sunflower medallion of Zuñi pottery. It may also have originated simply as the natural arrangement for a number of small stones on a circular surface. However, the one-row cluster does resemble a flower, considering the daisy-like appearance of the bracelet in the lower left corner of Figure 1D.

In its usual, multiple-row form of today, the cluster bracelet often borders on the ostentatious. Crowding row upon row of stones meticulously together, the bracelet centers may be as large as three inches in diameter, although those from one and one-half to two inches across are the most customary form, with the single-row variation rare in bracelets, although the more conservative buyer might prefer its greater simplicity. Navajo and Zuñi purchasers, however,

\(^1\)When speaking of rows in clusters, the first row is the first concentric ring of settings surrounding the central stone.
favor a bold display of turquoise. Like the row bracelet, the cluster bracelet is standardized in its combination of elements. The concentric rows of stones are set in notched bezels and separated by circles of twisted wire. The border is ornamented with a studding of silver drops in the interstices between the stones in the last row. These drops, also present in row bracelets, soften the outlines of small-stone jewelry.

The needlepoint stone, dating from only 10 to 12 years ago, lends a special elegance to the cluster (Fig. 1A, upper right). A more recent innovation, begun within the past year, is the introduction of a silver panel between the rows (Fig. 1A, lower right). This inclusion serves to relieve the somewhat monotonous repetition of stones.

Small clusters lend themselves well to rings and earrings. In this reduced form they are especially charming and wearable (Figs. 3A and B, 6A and 7). They are often marvelously precise, and the stones may be ground flush with the bezels (Fig. 6A, lower row). Large clusters, often considerably modified from the usual concentric row pattern of the bracelets, are seen in large pins and concho belts.

\(^2\) Dating of these two new design elements was supplied by George Rummage and Ransom Cooeyate.

\(^3\) Dealers would call this jewelry "channel," because of its resemblance to the other technique. The author prefers a more precise, technology-based terminology, for the purpose of this paper.
Representational. Small stones may take the form of minute butterflies, birds, flowers, or other representational motifs, which are found in bracelets, necklaces, pins, and earrings. These designs, when they consist of a relatively small number of stones to delineate the faunal or floral shapes, recall Della Casa's early rainbow god earrings. Although relatively infrequent in display cases, they are often attractive (Figs. 1D; 5A, upper row; 6C, upper left; and 8A). This theme may be developed into an elaborate effect, like that of the "peacock" in Figure 3A, lower left.

Squash-blossom necklace. What can be termed the classic Zuni squash-blossom necklace is seen in Figure 10A. When the Zuñis adopted the squash-blossom from the Navajos, they soon added stones to it, but at first these were relatively few. An old necklace has single turquoises set into the middle of a stamped hemisphere for the upper portion of the blossom, and flat, stamped petals. Later, the upper half of the blossom became a small cluster of stones, and the naja was studded with settings over its whole surface. The usual cluster details, twisted wire and drops, are evident. The illustrated necklace is very similar to its older predecessors, and its handsomeness explains its durable popularity. Although a complex piece, its elements are unified by the repetition and homogeneity of the color of its many turquoises.
Other. Other geometric arrangements beside the row and cluster account for the remainder of the small-stone class. Many Zuñi necklaces of the three-large-link variety feature imaginative use of small stones. Figure 9A pictures one of the most successful of these, an unaffectedly simple plan of two rows of differently shaped stones and one row of drops. The combined links curve into a graceful parabolic line. The same unbroken curve is not always found in these necklaces (Cf. Fig. 9B and D). Another esthetic criticism is that the links are discontinuous with the chain suspending them, resembling an uneasy cross between a choker and a regular-length necklace. Either a more gradual transition to the chain or a continuance of the links around the neck is indicated. This large-link style necklace, which is adapted to many different treatments, was developed specifically for White buyers.

In pendant earrings, simple geometric shapes are combined effectively, sometimes enlivened by the addition of dangles, recalling old-fashioned, dainty Zuñi earrings (Figs. 5B and 6D). The same fragile quality appears in pendant necklaces (Figs. 8B and 9C), the former consisting of five graduated najas.

On the whole, Zuñi small-stone jewelry is one of the most esthetically successful styles of Indian craft work. Row bracelets have a structural integrity and a fine balance of component elements; clusters have similarly harmonious
construction. The various forms of small-stone earrings and pins are generally very pleasing, and many necklaces have comparable delicacy. It is small-stone jewelry that is responsible for the popular characterization of Zuni jewelry as a whole as finely detailed.

Inlay

Characteristics. Inlay is another of the larger divisions of Zuni jewelry. Although notably different in technique and materials, its effects are somewhat similar to those of small-stone jewelry. By the nature of its materials, inlay is more suited to filling broader, simply-outlined shapes. Within these confines, the tiny pieces of variegated inlay, meticulously placed, echo the precise groupings of small stones. Only close inspection reveals the hairline joints between the pieces, which fit together as if painted on a plane surface. This requires considerable lapidary skill. The term "inlay," by now a fixture in the trade, is a misnomer since it implies, literally, a "laying-in" of one surface into another. As the pieces are fitted and polished before the housing is made, the proper term would probably be "mosaic," but the popular term will be retained for the purposes of this study.

Origins. Inlay started about 1935 when Dr. F. W. Hodge ordered a piece in this technique to be made by Teddy
Seahke, following a design copied from an ancient mosaic. Other Zuñis, interested in this experiment, began to make inlay with designs based upon tribal religious art (Kirk, 1945:43). The flat planes of color seen in masks and other religious paraphernalia adapt very well to inlay. All early inlay was representational, the most popular subjects being the knife-wing, rainbow, and sun gods. These first pieces used fewer stones and these were often carved to show such details as feathers, hair, or other features.

**Inlay in squash-blossom necklaces.** By some regrettable circumstance, representational inlay became wedded to squash-blossom necklaces and the results are among the worst samples of Zuñi jewelry design. Whatever consummate skill is involved in producing the rainbow god naja and side pieces of the necklace in Figure 12A, the outcome is bewildering. So many sun gods, all intricately patterned, and simultaneously waving their upraised arms and head-dresses, are too many. Each of the side pieces would have made an attractive pin, but the naja is too large for even this purpose. The standard four-color combination of turquoise, coral, jet, and white shell, is too strong in large doses for the average buyer, especially when considering the costume to accompany such a kaleidoscope of colors.

The sun god version in Figure 12B is an improvement. The component pieces are less dynamic, and there is a
better relative proportion between naja and side pieces, but even here there is an excess of detail and color. There is structural disharmony in the side pieces which are arranged perpendicularly to the double string of round beads. The heavy naja pulls the necklace down to a V-shaped line instead of the parabolic curve more appropriate to a necklace, and the side pieces tend to fall out of alignment, as in Figure 12C. Such large, over-ornate pieces are not readily salable and may remain in stock for many years.

Other uses. A better application of the inlay technique produced the fine necklace in Figure 13. Along with the usual four colors it employs a purely geometric design that tastefully varies the proportions of the separate hues so that large white areas subdue the brighter portions. This is a use of inlay far superior to the more costly and involved squash-blossom necklaces previously discussed.

Inlay, on the whole, is more easily worn in smaller pieces like earrings and pins where the effect of sharply contrasting colors is modified by smaller scale (Figs. 3C, 4A, and 5C). For those who favor bolder effects, but not to the extent of a necklace, inlay bracelets and large pins are a logical choice (Figs. 1C and 3C). Sunset's May, 1958 issue, in an article on Southwestern Indian arts and crafts, illustrates an inlay piece with relatively few stones as one of a selection showing "restraint in design and general
adaptability to most persons' use" (Sunset, May, 1958:71). Many small pieces in inlay may result in a spotty, disquieting design.

In all Zuni inlay, however, the owners' satisfaction is based not only on the worth of the designing, but in the materials themselves: the lustrous silver, the waxy blue turquoise, the warm-colored coral, the sober jet, and the milky, iridescent white shell. Such jewelry is a miniature showcase of the riches of nature. The colors are well controlled in smaller pieces, and many of the larger ones also have high artistic merit, apart from the quality of the materials.

Representational motifs are still the most numerous, and include not only the ever-popular knife wing god, rainbow god, and the sun god, but also the butterfly, dragonfly, deer, bull head, dancer, and kachina mask. Besides the necklace noted above, strictly geometric inlay is seen in belt sets (Fig. 17A), where the specific shapes make this a logical choice. Extensively used, inlay is also found in rings (Fig. 7, upper right), and concho belts (Fig. 19B, bottom).

Channel

In channel work, a cellular arrangement of silver bezels is soldered onto a backing and stones or shell are
set into these spaces so formed.

**Origins.** Since neither Adair nor Kirk mention this technique, channel would seem to be a post-1945 development, but the consensus of a number of dealers pushes its origin at least as far back as 1940. One possible explanation for its start in Zuñi jewelry lies in a bracelet purchased at the Pueblo in 1944 by the Laboratory of Anthropology at Santa Fe. It is a Persian bracelet of turquoise chips and brass. A strip of brass wire, shaped into a wavy line, runs down the center through the turquoise. Acquired by some Zuñi, it may well have initiated the trend toward silver bezels outlining stone and shell that is the channel jewelry of today.

An independent invention of the technique at Zuñi, however, is another possibility. Much of the channel work appears to be nothing more than inlay with housings replacing the original cracks between the separate pieces. Some jewelry combines inlay and channel (Figs. 12B and 15B). There is also a close relationship between channel and flush-polished small-stone jewelry, as can be seen by comparing similar earrings in the two techniques in Figure 6A (middle and lower rows, right).

Most channel bracelets are of simple geometric patterning, except for an occasional representative motif. The checkerboard channel bracelet (Fig. 2A), seems to be
related to the regular rows of stones in the classic row bracelet, but it is also reminiscent of the Hawikuh mosaics on wood, with their linear alignment of stones. Most bracelets, however, employ other combinations of straight lines, plus an occasional curved one. The bracelet may be monochromatic, bicolor, tricolor, or in four colors. Turquoise, coral, jet, and pink and white shell are all used. Monochromatic effects are seen mostly in turquoise, but those in pink shell and red coral or shell are also popular, with those in jet comparatively rare. Bicolored channel work includes combinations of pink and turquoise, which is the most popular; white shell in contrast to turquoise, jet, or coral; or some other mixture. When more colors are utilized, four-color effects outnumber tricolored ones.

One of the latter occurs in jet, coral, and turquoise in an especially well-designed piece (Fig. 2B, lower right) in that it varies the areas of the different colors so that there is good balance between them. The bright coral properly occupies the least space. Another bracelet, attractive in its own right, follows the more common Zuni treatment in apportioning equal space to the various colors.

The shapes into which the stone or shell are normally cut are relatively few: triangles, squares, bars, parallelograms, diamonds, or semi-circles. The simple resultant patterns rely for their impression on the arrangement and
relative proportion of colors. In the monocolored bracelets, the polish and evenness of color are paramount considerations. The stones may be polished flush with the bezels or above these, adding textural interest. The whole area of channel work may be polished to a convex surface (Fig. 2B, lower row).

The few exceptions to geometric designs in channel bracelets include the parrot figure set against a contrasting inlay background as in the coral-on-white-shell version in Figure 2B. The same device in combinations of turquoise and jet, or turquoise and pink shell are used in link necklaces (Fig. 15B and C). An arrow design is similarly used.

Other necklaces in channel include some squash-blossom styles. The one in Figure 14A simply reduces the basic naja and squash blossoms to a flat surface, but the large sizes of the components make this piece generally unwearable. The rainbow god necklace in Figure 14B is more attractive than the inlay interpretation of the same theme, but the dangling rainbow gods on the naja are unnecessary. The use of turquoise alone greatly clarifies and unifies the design elements. The graceful channel link necklace in Figure 15A resembles the small-stone one in Figure 9A, another example of how similarities cut across the different techniques in all of Zuñi jewelry.

In smaller pieces, channel work often closely simu-
lates representational inlay, as can be quickly affirmed by comparing the pins and earrings in Figures 3C and D, 4A, and 6A. Dealers, in fact, call all such multicolored jewelry "inlay," again disregarding technological differences. Channel may also take geometric forms in pins. An assortment of these is shown in Figure 4B; the one in the lower left corner closely approximates the pottery medallion and may be a copy of it. Geometric channel, evidently, makes attractive pins, earrings, and rings (Figs. 6A, middle row; 6C and 7, upper row), in a variety of shapes and colors. Its effects are essentially different from those of other techniques, but geometric patterning is, of course, in the best Zuñi tradition. Channel work of this sort can also be found in good-looking belt sets and concho belts (Figs. 17B and 18B).

The time-honored pairing of turquoise and silver, in the writer's estimation, still furnishes the best contrast. None of the other materials seems to look as well with silver's lustrous grey and each is diminishingly effective in this order: jet, white shell, pink shell, and coral. However, all-pink and all-coral bracelets sell successfully. Considering various contrasts between the stones and shells themselves, white shell and jet join well with any of the colors. Turquoise and coral, very nearly opposite each other on the color wheel, are very boldly contrasting, but
nonetheless attractive. The silver bezels in channel tend to restrain this vibrant contrast. The pink shell and turquoise combination is growing in popularity, but the differing lusters of the two materials, and the variability of the shades of turquoise often make this pairing a bit unsatisfactory. The paler the turquoise, the better it combines with the shell, as the pink is not pure but lavender-tinted.

Nugget

Origins. The latest style of jewelry added to the Zuni inventory is called nugget. According to Dan Simplicio it was started by him when he began making nugget rings in 1948. In making these a large turquoise was polished in accordance with its natural contours rather than to a smooth cabochon, as hitherto. It was flanked by pieces of silver similarly irregular in shape, hence the title "nugget" for the new style. The kind of cutting it uses, called nugget or wavy-cut by Zuni craftsmen, saves turquoise and shows the individual stone to its best advantage. Nugget is well-established by now, and is found in all standard forms of jewelry. Coral was added about five years ago, Mr. Simplicio recalls, and the same principle of utilizing the natural shape of the material is followed.

Uses. A typical nugget treatment is seen in the
bracelet in Figure 2D. A natural twig of branching coral is the focal point of the design, and this is flanked by a number of irregularly-shaped turquoise stones. The bezels of these and the coral are relatively high, cut in broad scallops. Drops, stamped with a sea-shell motif, line the border of the backing which is unsymmetrical to accommodate the irregular stones. A fan-shaped prong helps hold the coral in place. The whole effect is very rich and rococo, and finds continued approval with a certain group of the buying public. Simpler nugget style bracelets are seen below the one just described in Figure 2D, and these recall the appearance of the first nugget rings. Here large stones are bordered by silver "nuggets" with bold, massive results belying the over-all characterization of Zumi jewelry as delicate.

A most interesting interpretation of nugget style is the lovely pendant pictured in Figure 16B. The natural shape of the coral suggests a dancing figure. Two pieces of Spider-web turquoise are set where the head would be and between the "legs." Instead of stamped drops, the silver accompaniments are graceful scrawls of cast silver, aptly repeating the lines of the coral twig. Insets of turquoise into the fiery coral are one concession to fussiness that could have been left out. This piece suggests affinities to either rococo or modern "free form" jewelry, but Mr. Simplicio's well-known inventiveness may well be
solely responsible.

Lesser Categories

While the bulk of Zuni jewelry falls into the above classifications, there are a few subsidiary ones that are found infrequently. One is cast work, still continued by Horace Aiuli in the form of handsome knife-wing gods, squash-blossoms, and buckles. Although stones are set into these, they are in this instance subordinate to the silver work. In Figure 3B we see one of Horace's finely crafted "birds," (upper left corner) and another craftsman's similar but cruder product (center). Cast work is also used in units supplemental to the other, main categories, as noted above.

On the other end of the scale, jewelry is still made in which silver is absent. Leo Poblana has only lapidary equipment and makes necklaces of cut and polished turquoise or shell, full-round fetishes, and carved bird pendants (Fig. 6D, left). This purely lapidary work is in the pre-Spanish tradition. Beautiful necklaces of deep turquoise are still treasured by Zunis.

Channel in overlay is occasionally seen (Fig. 19A, top). This technique requires the design to be cut out of one piece of sheet silver which is later soldered on top of a whole piece of silver. Stones are then set in the design
outlines and polished flush or above the silver. Ransom Coeeyeate was using this method for a linked watchband when interviewed. It is also seen, now and then, in bracelets or elsewhere.

Sources of Designs

Zuni-trader cooperation. Even within a single category, one Zuni jewelry piece rarely resembles another unless they are matched earrings. Twelve bird inlay pins will all be different in color or line. Not only is this constant variability intrinsic in many Indian crafts, but a profusion of designs has been promoted by the dealers since something new and different is bought faster. The dealer or trader may himself suggest designs, keeping within the framework of past tendencies or showing the smith a design in some ethnological volume from the Bureau of American Ethnology or the Smithsonian Institute. Zunis, however, are not docile followers of the Whites' suggestions and generally will not make up something they themselves dislike. In the same way, a customer's whim may be indulged, but the chances are against this starting a trend. Of course, public taste sometimes supports the less desirable designs. Store employees may disparage certain over-ornate pieces, but add, "someone will buy it and love it."

The craftsmen themselves are eager to think up
something new, knowing they will be paid better for this, especially if the trader regards the product well enough to try to monopolize its sale. By being inventive, the Zuni smith hopes to circumvent the competition from fellow smiths and imitating manufacturers. His new idea will be fostered or buried in the hands of the traders he approaches, and each of these is subject to his own personal preferences in what he thinks will sell. A design that is finally used often is a collaboration between an inventive Zuni and a revising dealer. Navajos may also come into the picture. Channel silverwork is often made by Navajos and passed on by a dealer to a Zuni for setting. Navajos make the silver beads that are used for necklaces, a tiresome job most Zunis dislike. The survival of a design depends not only upon its salability but on the demands it makes upon a jeweler. Very fine needlepoint stones, for instance, are a strain on both eyes and patience.

**Effect of fairs.** A great number of prizes are offered annually at the Gallup Indian Ceremonial for various arts and crafts. Most jewelry entries are made by traders or dealers, some of whom supply their best smiths with the finest materials and make as many entries as possible. There were 77 classes of entries at the 1957 fair under "Class IV -- Silvercraft -- Lapidary," especially designed for Zunis as distinguished from Navajo work entered under
"Class III -- Silvercraft -- Silversmithing." This competition is a valuable advertisement for entering dealers, but some do no more than present pieces from their regular stock. Although the entries are, in a sense, a parading of current styles in design, the winning items do not necessarily effect design changes. Some of the show pieces require too much time and labor to be profitable in sales. The judging at the fair, however, has been beneficial in upgrading quality of workmanship. Judges are selected from those familiar with Indians and their technology, but their judgement may be directed from a particular point of view: technique, design, or the quality of the materials.

Range of Products

Most of the kinds of articles produced by Zuñi craftsmen in largest quantity are pictured in the illustrations and discussed in this chapter. Those forms continuing from the past include: earrings, rings, bracelets, necklaces, crosses, concho belts, and buckles. The newer forms have been made in response to tourist demands. While common, cuff links and tie slides have not been illustrated or discussed because of their close similarity to other forms of small Zuñi jewelry. Other forms that are less frequently found, or are not classifiable as jewelry despite use of the same materials and techniques include: barrettes, combs, buttons, tie clips,
tie tacks, gatos, key chains, letter openers, pill boxes and boxes of various sizes for different uses, pistol grips, ashtrays, and book-ends.

Summary

Zuni jewelry has much to offer the buyer. First, there is great variety, in at least five major classes: large-stone, small-stone, inlay, channel, and nugget. There is the satisfaction of having a piece that is essentially unique, despite gross resemblances to other pieces. In the whole gamut of Zuni jewelry, in short, there is something to please all tastes. Not all the designs are good; a recurrent sin is lack of simplicity. Being handicraft, little of the jewelry is technically flawless, but the minor imperfections add to the individuality of each piece. The quality of the workmanship, the richness of the materials, and the lively designing have produced, on the whole, much to be admired.
CHAPTER IV
THE JEWELRY INDUSTRY AT ZUNI

Jewelry-making at Zuni remains the cooperative, home industry Adair described in 1940. The workshop is set up in one of the main rooms of the home, and the silversmith arranges his own working hours. He is generally assisted by his wife and older children who may handle the less skilled operations such as grinding turquoise or shaping and setting bezels. Specialization within the family is more on the basis of age and skill than on sex, and a wife may have a specialty apart from her husband's. Horace Aiuli, who has been with the craft almost from the beginning of its commercialization in the Pueblo, acknowledges that some female smiths are more skilled than he is. Having members of the family help greatly speeds the output of jewelry when a large order awaits filling. While one is soldering, another can be grinding stones for settings. A wife can continue to supplement the family income when her husband is called off to other tasks.

Apprenticeship

The young Zuni learns to make jewelry at home in an
informal apprenticeship, watching older members of the family at work and volunteering help in some of the simpler jobs. Sarah Jamon recalls starting to make jewelry in this way at the age of nine. Few, if any, Zuñi take training at a school. Mr. Jimmy Yazzie, who teaches jewelry-making at the Santa Fe Indian School, has no Zuñi students in his classes as they prefer to learn the craft at home. By classroom methods, Mr. Yazzie claims it takes at least two years before a pupil can make salable jewelry. It probably takes the average Zuñi apprentice at home at least five years to bring himself to full mastery of all the major techniques involved in Zuñi jewelry. By concentrating on one specific form of jewelry, however, this time would be shortened.

Technology

Understanding of the various operations involved in the making of a piece of jewelry will illuminate the highly skilled and painstaking nature of this craft. Below are the step-by-step summaries of the technology of various articles currently sold.

Row bracelet.

1. Cut bands out of sheet silver and shape for bracelet blanks.

2. Cut out thin strips from 30-32 gauge silver for bezels and notch edges with a special notching file.
3. **Shape bezels over round-nosed pliers and cut them off strip.**

4. **Evenly space bezels onto one bracelet blank and bind down.**

5. **Solder bezels by heating from underneath while touching solder to the joints.** (Alternate method: previously melting a strip of solder onto the blank).

6. **Cut measured pieces of silver from wire, melt into drops, and solder on in alignment with bezels along one side.**

7. **Repeat the above steps for as many rows as are required, soldering the rows together, matching bezels and drops.**

8. **Dip in acid to clean.**

9. **Oxidize and buff.**

10. **Cut stone to fit and set in with aluminum cement, also bending bezels inward.**

**Cluster bracelet.**

1. **Cut, notch, and shape bezels, as above.**

2. **Arrange bezels on piece of sheet silver, bind into position, and solder down.**

3. **Saw out silver backing around cluster.**

4. **Shape three bracelet shanks from heavy wire and solder together at ends.**

5. **Solder cluster onto central area of bracelet.**

6. **Dip in acid, oxidize, and buff.**

7. **Cut, polish stones, and set.**

**Inlay pendant in stamped, silver bezel.**

1. **Draw outlines of inlay pieces on aluminum backing (or phonograph record).**

2. **Cut out pieces of turquoise, jet, coral, and**
shell to fill outlines, using pincers and saw.

3. Solder inlay pieces to aluminum backing with aluminum cement.

4. Grind inlay down to a flush surface and saw out of the aluminum.

5. Shape and solder a bezel onto a piece of sheet silver to fit around the inlay.

6. Shape and stamp a piece of half-round wire and solder down to frame the bezel.

7. Set the inlay into the silver bezel using liquid solder or plastic cement. Also press housing inward.

**Checkerboard channel bracelet.**

1. Cut a band of silver for a single row of stones, bend to bracelet shape.

2. Solder a bezel strip onto one side of the band in central area.

3. Repeat the above steps for as many rows as required, then solder rows together, adding one more bezel strip on outer row.

4. Saw across all rows of bezels at right angles.

5. Cut and fit in crosswise bezels and solder these in.

6. File well so solder does not show.

7. Cut out and shape a piece of silver to fit over lower bracelet band (composed of soldered rows of housings, above), and flush with tops of housings, with ends meeting.

8. Shape strips of silver into crescent-like pieces to fit tops and bottoms of sides of bracelet, forming a boxed-in band.


10. Cut, fit stones and set with adhesive, later grinding flush with bezels.
Nugget pendant with coral.

1. Flatten the back of the coral twig by grinding.
2. Make a high scalloped bezel to fit coral, solder.
3. Stamp out fan-shaped pieces with a chisel, filing edges, and solder to bezel.
4. Stamp out drops and half-round wire and solder in place.
5. Make silver nuggets by melting scrap silver and poking while still soft. Solder down.
6. Cut out and drill cord-carrying element and solder to back.
7. Grind, polish, and set turquoises and coral twig.

Cast squash-blossom for necklace.

1. Cut shape out of stone mold, or use pattern in a sand mold.
2. Cast whole squash-blossom and remove from mold.
3. File and polish.
4. Solder on as many bezels, or stamped drops as desired to decorate periphery of central stone.
5. Cut out, drill, and solder cord-carrying piece on back.
6. Cut, polish, and set stones.

Various skills. These directions only outline the major processes undertaken by the jeweler, with or without family help. They do not disclose the exacting skill and patience required, a fact most apparent only to anyone who has attempted to make jewelry himself. A slip of the hand during many critical phases in the construction can mean the piece must be scrapped, the stones taken out, and the
silver melted down.

Casting, done by relatively few Zuñis, requires a whole set of skills in itself, as Adair's descriptions make clear (Adair, 1944:63-65). Stone molds, requiring careful carving, and subject to cracking with repeated use, have been replaced in many instances by sand casting. With the latter method, once the smith has a pattern piece, reproductions of it can be endlessly repeated. This technique was suggested by George Rummage, one of the traders. It is essentially simple. A box-like frame of wood or metal is filled with sand which is firmly tamped down. An impression is made into the surface of the sand with any pattern duplicating the contours of the finished piece. Metal is melted and poured into this depression.

Few Zuñis are skilled at handling large sheets of silver and fashioning these into ash trays, boxes, and the like. This is a branch of silversmithing that Navajos are more likely to produce. Tool-making is another supplemental skill. Horace Aiuli, with a background of blacksmithing, has made many dies, mandrels, drawplates, and other tools for his own use or for sale or trade in the Pueblo.

Except for Leo Poblana who specializes in lapidary work, the craftsmen interviewed either practiced or could describe many of the various techniques described above. As can be seen, there is a certain amount of repetition of
basic steps in whatever is made. One dealer in Gallup commented about their versatility, "any of them can do anything." This is probably largely true, but it is also a fact that families tend to specialize in certain types of jewelry. Small peculiarities of workmanship and design enable Zuñis and traders alike to name the maker of various pieces on sight. When the trader wants a particular style of jewelry made, he generally knows which family to contact. In the interests of higher skill and faster production, this is probably a good plan, but the craftsman adapts himself to the trader's current demands when he can.

Tools. Horace Aiuli has a very full assortment of tools. Most of these are listed under the following headings denoting their area of use:

1. Soldering and casting:
   A small forge (also used for blacksmithing)
   Many carved stone molds
   Wooden frame and sand mixture for sand-casting
   Prestolite torch with bottled gas supply
   Homemade crucibles of clay or tin-can tops
   Tongs

2. Cutting and sawing:
   Jeweler's saw frame and blades
   Pairs of metal snips and shears
   Pincers
Many files of various sizes and teeth
Chisels

3. Shaping and polishing:
Log anvil
Several metal anvils
Vise
Hammers
About 50 different dies
Mandrels
Three grinding wheels, one hand-operated, the others electric
Dapping sticks and wax (for holding stones being ground)
Eight sets of pliers
Drawplate

Horace's stock of tools would take several hundreds of dollars to reproduce, but it was accumulated over several decades, and he has made many of his own tools. One significant change in his equipment reflecting more modern technology is the absence of a roller, no longer needed since silver is now bought in sheet form. With an array of wires also available, the drawplate could also be dispensed with.

Although many tools survive long periods of use, there are continuing costs for electricity; bottled gas; the breakable, short-lived sawblades and fine files; and for the breakage or wear of other tools. The starting silversmith needs only a small part of the above collection to begin to make salable
jewelry. To increase his speed and efficiency, he can fill out his tool supply gradually. Leo Poblana, confining himself to lapidary work, has invested in a relatively small number of tools, but lapidary machines are expensive, averaging about $150. Costs for smaller tools like files, pliers, and the like are generally under $5.00 apiece. However, as most families in Zuñi make jewelry, the starting silversmith usually does not have to buy a whole new set of equipment. Traders will also buy unbuffed pieces.

Psychological Factors

Making jewelry is hard, fatiguing work. For the amateur craftsman who makes jewelry a few hours a week, the work is pleasant even while exacting. When continually making jewelry for sale, the tediousness becomes paramount; each piece requires close attention, careful handling, and much time. Horace Aiuli, who has taught many Zuñis the craft, states that it is particularly hard for young people to sit at a work bench all day. When a Zuñi must expend a disproportionate length of time on a piece, as when asked to produce something special for the Gallup Intertribal Ceremonial, there is a strong likelihood that he will never attempt this particular task again.

The silversmiths interviewed for this paper, well-known for their skill and artistry, all do something else
besides jewelry for at least part of their working hours: government jobs, fire-fighting, blacksmithing, and farm work. There is some friction between the smith, interested in other jobs or Zuñi ceremonial, and the trader who wants a quantity order made up quickly. One white dealer, also a craftsman, is of the opinion that, due to its exacting nature, this craft can never be more than a subsidiary means of income.

There are some compensations, to be sure. A reputation for skill in jewelry and the steady income this entails win respect from other Pueblo people. Being the creator of a new technique or design brings its own rewards. There is pride in the voice of the silversmith recalling such triumphs and each tour de force of his past. The prices that accompanied these articles are also warmly remembered.

Another memory is the steady falling of prices for original designs once these were copied and made on a larger scale. This is a familiar experience to many. Leo Poblana, for instance, once spent three arduous weeks turning out a pair of 6-inch inlay Shalako Figures for book-ends, materials supplied. He made $300 on this single venture. Smaller inlay figures brought $75 apiece before copying lowered the price so far that he discontinued making them. Dan Simplicio first sold nugget rings for $10 to $12, but later for half these amounts. Various problems of competition and selling, later discussed, discourage craftsmen, especially those without superior talents.
CHAPTER V
ECONOMIC FACTORS AT ZUNI

Taking the Pueblo as a whole, jewelry is the primary income source, ranking over agriculture. Estimates by the Zuni Agency place the proportion of jewelry income to the total at 65%. No one has made a survey to determine how the total annual jewelry income of about $300,000 is distributed among all the people concerned, but it is estimated that at $2,000 per family, this amount would support about 150 families each year. Of 714 families at Zuni (the total population is 3570), an estimated 80%, or about 570, of the family groups make jewelry. For most it is a part-time, subsidiary income; perhaps 20% derive their main income from it. As noted above, the prominent smiths interviewed for this paper all take time out for other activities. The average annual income for all Zuni families is $1849; their standard of living is about 40% below that of neighboring non-Indians.

Alternate Income Sources

One smith interviewed put the great dependence upon jewelry up to this cause, "there isn't much else to do."
Unlike the Navajo and other reservations, the Zuñi one is poor in mineral resources according to geological surveys made to date. Tribal funds are so low as to be negligible and there is only one tribal enterprise, connected with the water supply. Although their stock industry is, after jewelry, the next most important means of income, it could bear much improvement. The population, in any case, is too high to be supported solely from land resources. Firefighting employs about 300 accredited firefighters who, grouped into teams that rotate, are on call from April through November. Leo Poblana is one of these. In the yearly struggle to control the fires that threaten Western forests during the hotter months, the Zuñis have won a fine reputation for their skill in firefighting. Others, including Bowman Pewa, have at least part-time government jobs with the Bureau of Indian Affairs' various operations. The Relocation Program fostered by the Bureau has not met with much success despite the high literacy of the group and their relative proximity to Gallup and other urban centers. The fact is that the Zuñis are very fond of their Pueblo with its steady round of ceremonies and close-knit village life. They would like to see more jobs at Zuñi, and the Bureau is trying to accommodate their desire with efforts to attract industry to the Pueblo or to set up new tribal enterprises. Significantly, these plans do not include any
improvement of the current jewelry industry, although most Zunis agree that there are too many of them making jewelry, and selling and income conditions are far from desirable.

Selling Jewelry

There are several courses open to the Zuni with jewelry to dispose of. If he is one of the better craftsmen, he very likely has received orders from several traders and dealers who may have supplied the materials. After completing these articles, he will be paid so much per piece. If the craftsman has bought his own materials, payment takes into consideration the number of ounces of silver and the number and quality of settings in the article. Many consistently buy their own silver, stone, and shell and make jewelry to be sold in various ways. The simplest means of disposal is selling to the local traders. Many do this, and some deal for many years with the same trader or traders with whom they have credit relations. Others, however, object to the trader's payment in combined cash and credit, or credit alone.

Better prices can be secured in Gallup, about 40 miles away, where there are many craft stores. However, as Gallup is frequented by many other Indians with like purposes in mind, this competition retards his selling power. The seller may go from dealer to dealer seeking the price he has set his mind on, but eventually accepting a lower one. If
the dealer is overstocked with the kind of item he has to sell, if business is slow, or if he is less skillful than others, he may not sell his jewelry. His chances are best if his products are very well made and of fresh design.

Some Zuñís bypass Gallup for more distant selling places, traveling to fairs, rodeos, and ceremonials, or to large cities like Phoenix or Albuquerque. By thus circumventing the middleman, perhaps dealing directly with customers, the resulting profits may justify the expenditure in gasoline and time. Also, following these face-to-face contacts, a clientele may be built up which can then be relied on for future mail orders.

The local credit system. The credit system is a thorn in the side of Whites and Zuñís alike. It took root in the early days of Indian-White dealings when there was no money in the Pueblo and the age-old method of barter was taken up as the only practicable system. It still persists, partly due to the fact that money is still scarce, as there is a dearth of paying jobs, and also because of the continued availability of tradable stock: hides, wool, lambs, and jewelry. Of course, by building up a credit relationship, a trader can better control the direction of a Zuñí's jewelry output towards himself. As one silversmith notes, credit is not bad for providing groceries, but it does not pay for electricity or cars. Cars are popular at Zuñí, not only for their practicality in communicating with Gallup and other
population centers, but as a form of conspicuous consumption. Buying them has sometimes gotten Zuñis ensnared in payments they cannot meet, which they then turn over to the trader to handle. Not only for cars, but for food and clothing, traders have been generous with their credit. Recently several old debts, of over ten years' standing, were canceled. This tendency of Zuñis to build up more than they can repay is another reason why the system cannot be done away with in short order; it survives by a kind of necessary inertia. Considerable local White opinion is that Zuñis have not yet come to successful grips with money, but how far the credit system has retarded their learning in this direction is a debatable point. The problem, of course, infests our whole installment-buying public. The traders at Zuñi will pay entirely in cash if requested, and if one or more of the following conditions are met:

1. The materials were bought by the maker.
2. The jewelry is of finest workmanship.
3. The design is new and worthwhile.

On page 61 is a chart showing how the Zuñi jeweler is paid for his time and materials. As can be readily seen, he is not fairly recompensed for the hours he puts into his work. The price he receives is based more on the weight of the materials than on the hours of work involved and gives no more than about $0.50 per hour with an average closer to
## Table 1
### Comparison of Time and Money Expenditure with Price Paid Jeweler

<table>
<thead>
<tr>
<th>Jewelry</th>
<th>Type</th>
<th>Ounces</th>
<th>Cost</th>
<th>Hours Spent</th>
<th>Selling Price</th>
<th>Amount Earned*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inlay necklace (Fig. 12B)</td>
<td>silver</td>
<td>1.5</td>
<td>$2.10</td>
<td>13</td>
<td>$15.00</td>
<td>$15.00</td>
</tr>
<tr>
<td></td>
<td>mixed inlay</td>
<td>1.5</td>
<td>6.00</td>
<td></td>
<td></td>
<td>$6.00</td>
</tr>
<tr>
<td></td>
<td>total</td>
<td>3</td>
<td>8.10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Squash-blossom necklace (Fig. 10A)</td>
<td>silver</td>
<td>6</td>
<td>8.40</td>
<td>16</td>
<td>35.00</td>
<td>$15.00</td>
</tr>
<tr>
<td></td>
<td>turquoise</td>
<td>5</td>
<td>25.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>total</td>
<td>11</td>
<td>33.40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cluster bracelet (Fig. 1A, lower left)</td>
<td>silver</td>
<td>3</td>
<td>4.20</td>
<td>12</td>
<td>17.00</td>
<td>$15.00</td>
</tr>
<tr>
<td></td>
<td>turquoise</td>
<td>2</td>
<td>10.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>total</td>
<td>5</td>
<td>14.20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small inlay pin (Fig. 4A, lower left)</td>
<td>silver</td>
<td>1.5</td>
<td>.70</td>
<td>9.5</td>
<td>3.75</td>
<td>$3.75</td>
</tr>
<tr>
<td></td>
<td>mixed inlay</td>
<td>1.5</td>
<td>2.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>total</td>
<td>1</td>
<td>2.70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pair of inlay earrings (Fig. 5C, upper left)</td>
<td>silver</td>
<td>1.5</td>
<td>.70</td>
<td>10</td>
<td>7.00</td>
<td>$7.00</td>
</tr>
<tr>
<td></td>
<td>mixed inlay</td>
<td>1.5</td>
<td>2.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>total</td>
<td>1</td>
<td>2.70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One cluster ring (Fig. 7, lower left)</td>
<td>silver</td>
<td>1.5</td>
<td>.35</td>
<td>5</td>
<td>3.50</td>
<td>$3.50</td>
</tr>
<tr>
<td></td>
<td>turquoise</td>
<td>1.5</td>
<td>1.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>total</td>
<td>3</td>
<td>1.60</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Based upon the following average costs: silver — $1.40 per oz.; turquoise — $5.00 per oz.; and mixed inlay — $4.00 per oz., a composite price estimated from the various prices of turquoise, jet, coral, and shell.

**These figures are obtained by subtracting the total cost of materials from the selling price and dividing by the hours spent in each case. Fred Bowannie, who supplied these figures, cautions that the selling prices given here are the maximum ones at present. On the reservation the value is usually returned in combined cash and credit.
$.30 per hour. Fred Bowannie, who supplied these figures with some outside consultation, cautions that these are conservative estimates, especially with regard to the selling prices, which may be lower than those given. It is understandable that the craftsmen are discouraged about current price levels.

The relatively small number of Zunis working directly under a wage and hour system for traders are free from the major anxieties of the home craftsmen. They earn from $1.00 to $1.75 per hour for their skill alone, and have no problems of purchasing tools and materials, or of having to sell their products. At the same time, they have less opportunity to participate in home and village life.

Depressed Prices

It would be a mistake to lay the blame for the low prices squarely on the shoulders of the traders and dealers. By comparison with other reservations, Zuñi certainly appears fairly prosperous. The people live in soundly-constructed, attractive stone houses with many windows. Their interiors resemble those of White rural families of modest income, with tables, chairs, cupboards, linoleum-covered floors, and iron stoves. Well-established smiths may have still better furnishings. Local Whites, whose long residence extends to the period before jewelry was
commercialized, recall a much sadder living standard. The quick change that the money from the new jewelry industry entailed must have delighted the Zunis of thirty-five years ago. The whole price system has its roots in these early days, but the Zuni of today has absorbed enough acculturation by now to be dissatisfied with an income far below the average White man's.

Over the years the prices have taken a continued battering from inside and outside the Pueblo. Locally, so many Zunis make and sell jewelry that, in the natural course of supply and demand, they keep the price level down. The repeated dropping of the good prices granted to brand-new designs as a result of widespread copying, has already been mentioned. All the silversmiths interviewed are unanimous in denying any personal bitterness against other Zunis who copy, regretting only that they allow the prices to fall. One craftsman consulted a lawyer about protecting his designs with patents but withdrew because of the expense and his reluctance to bring another Zuni into a lawsuit. Often, dealers are responsible for the copying; they buy an original and have their shop or outside smiths make it up in quantity.

Imitation by White manufacturers or, to a lesser extent, White handicraftsmen, has been another pressure on the trader to keep his selling prices low. The threat of these on the market will be discussed in more detail in
Chapter VI, but it will suffice to say that machine-made imitations closely resembling Zuñi jewelry cost far less than their handmade counterparts even at current prices. Finally, the customer himself, often a tourist who is ignorant of the nature of Indian jewelry and its technology, protests the extant prices, although they are certainly a bargain for handicrafted jewelry.

Navajos as competitors. Although Navajos have been known to copy Zuñi jewelry, often at a trader's request, neither Zuñis nor concerned Whites feel that Navajos threaten Zuñi jewelry as competitors at present. The styles of the two groups are so different that they actually serve different portions of the market. Bowman Pewa, who had an order to cut and set stones in Navajo-made channel work when interviewed, good-naturedly criticized their workmanship, but without bitterness, typifying the Zuñi attitude on this matter. Hopi jewelry, still a minor competitor, but growing in popularity since the 1940's, is also a distinctive product.

Traders' Problems

The relations between the trader and the men and women whose jewelry he buys, are not those of an ordinary White contractual agreement. Zuñis will stop jewelry-making for long periods repeatedly through the year to participate
in or attend village ceremonies. His time is his own and he feels no constraint to complete his assignments on any specific date. The trader often is hard put to extract such a promise, or to have it complied with. The Zuni has not divorced himself from his particular way of life, but fits jewelry-making into it as best he can.

The trader's business instincts, frustrated by the above conditions, are also frequently put aside for destitute or less skilled Zuñis. He will hire these, buy their better pieces to be improved by his shop smiths, or extend their credit. By continual encouragement and advice, many a mediocre smith has slowly brought himself up to an accomplished level. Some traders hardly ever refuse any jewelry in trade, dealing largely in second-grade pieces that sell more cheaply or with difficulty. This "grey market" is a boon to the craftsmen who are not as skilled as others or who are just learning the skills.

Summary

Competition from machine-made imitations and other Zuñis has increased selling difficulties for each Zuñi jewel craftsman, and there is general dissatisfaction with today's prices. There is little doubt that the present lack of alternate forms of steady employment helps explain the high survival of the craft at Zuñi. Were this situation to be
changed in the future, the Zuni jewelry industry would probably be drastically altered.
CHAPTER VI
THE MARKET AND THE IMITATORS

The market for Zuñi jewelry and Indian jewelry in general is large and durable. One trader states that years ago he thought that enough Indian jewelry had been sold to decorate everyone in the United States, but much to his and others' surprise, the demand is continuing. The concentration of sales is West of the Mississippi; resort cities such as Phoenix, Palm Springs, Tucson, Santa Fe, and Las Vegas are good markets. Much of this jewelry is sold in national parks and monuments, and on the West Coast. There is also a spotty distribution of markets throughout the eastern states. Summer is a heavy selling time, when floods of tourists pass over the Southwest's areas and parks, with another selling phase in the Winter tourist season of the southernmost cities. There is also a steady demand throughout the year by local people, including the Indians themselves. Navajos, especially, are steady buyers of Zuñi jewelry.

The Buying Public

To a large extent, the course of Zuñi design and
form development in jewelry is dependent on buyers' tastes. These have directed production toward smaller, lighter, and less costly articles. The tourist from the East is likely to be ignorant about Indian designs and handicraft technology and consequently skeptical of prices. He does not appreciate that the stones and shell are semi-precious. He cannot understand why the pieces are not technically perfect, more standardized, and, above all, cheaper. Salesclerks may explain that the materials are costly and are assembled by painstaking hand methods by an Indian craftsman. Having absorbed some of the significance and romance of this jewelry, he may buy some, probably in the lower price range from $10 to $30. Salesclerks report that familiarity frequently breeds, not contempt, but more orders from such a source. A summary of present prices for smaller pieces is given in Table 2, below.

<table>
<thead>
<tr>
<th>Type of Jewelry</th>
<th>Average Range</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earrings</td>
<td>$6 to $15</td>
<td>$30</td>
</tr>
<tr>
<td>Small pins</td>
<td>5 to 12</td>
<td>20</td>
</tr>
<tr>
<td>Large pins</td>
<td>10 to 20</td>
<td>30</td>
</tr>
<tr>
<td>Inlay bracelets</td>
<td>18 to 30</td>
<td>--</td>
</tr>
<tr>
<td>Large-stone or nugget bracelets</td>
<td>40 to 50</td>
<td>--</td>
</tr>
<tr>
<td>Large cluster bracelets</td>
<td>55 to 70</td>
<td>--</td>
</tr>
</tbody>
</table>
The Southwesterner is a steady, dependable buyer. Acclimated to the particular architecture and cuisine of the West, he may also like to surround himself with native crafts reflecting regional history and ethnology. Many people in this section of the country have historical or archaeological vocations or interests; these dispose them favorably towards Indian jewelry. Educated by local periodicals and regional literature, Southwesterners are less loath to spend money on worthwhile pieces than is the tourist, and have more opportunity to be selective than the latter. Those who combine an interest in Zuni jewelry with financial security foster some of the finest products, like Leo Poblana's memorable book-ends. Unfortunately, some of them also support the existence of the larger, gaudier items like inlaid squash-blossom necklaces.

There is a core of really discriminating buyers, however, and these are not confined to the Southwest. Neumann points out the shifting emphasis of this portion of the public that has always been interested in Indian jewelry. At first, he states, their interest was mainly antiquarian and ethnological. The jewelry they bought and wore was not so much to adorn as to announce their special interests. Today, except for genuine collectors, the emphasis is on jewelry that is both Indian and in accord with modern costume (Neumann, 1956:234-235).
Imitations

Either scorning the higher prices of genuine Indian jewelry, or so unaware of it that they are easily fooled, the public readily buys the nickel silver and plastic reproductions found in all Southwestern cities. Five of the largest manufacturers in the field of pseudo-Indian jewelry make annual transactions totalling an estimated $6 million. Not all Zuni jewelry is being imitated, and not all is reproduced well, but all imitations threaten the price level of the whole industry.

Good-looking row bracelets using silver with plastic stones sell for prices from $7.00 to $15.00, depending on the number of rows, which range from one to three. These are direct copies of the standard row-bracelet design, complete with teardrops and notched housings. The imitation turquoise is of a deep color, but the luster is flat and the color unvaried, lacking the pleasant waxiness and the subtle variations of the true stone. Sometimes the blue is too blue, entirely out of the true turquoise's color range. Clever imitations, however, come complete with a simulated matrix. In such small stones, the defects of the imitation stones are less apparent than in larger pieces. Many of the imitations made in the Navajo large-stone style contain genuine turquoises. There are also colorful tie slides that imitate Zuni channel representations of birds and
rainbow gods. These are in highly polished nickel, with the bezels cast in one piece with the backing. The popular combination of four colors is represented in variously colored plastic, all with the same luster, lacking the vitality and unique features of the genuine stones and shell. These tie slides sell for prices from $2.00 to $3.00.

In earrings, although the silver-and-turquoise pairing is seen in silver and blue plastic, few of the designs are authentically Zuni. Those that are seldom are as complex as the handicrafted pieces. The imitations include small-stone earrings using twisted wire and drops in star and hoop arrangements, selling from $1.00 upwards. Nickel and plastic squash-blossom necklaces, completely Zuni in all details, can be bought for about $12.00 for a fairly good copy. Of course, the shininess of the nickel and the identically bright but odd-lustered stones are fairly easy to distinguish from the genuine article, but not when the latter is not there for comparison.

Certain types of Zuni jewelry have so far defied comparable machine imitations. These include such items as fine inlays and nugget style jewelry with its irregular shapes. However, the same reservation was made once for the small-stone jewelry that is now being cheaply reproduced (Adair, 1944:171).
The harm done by imitations. Exposure to machine-made imitations, at their low prices, spoils the customer for his first experience with a store confined to selling authentic Indian jewelry. The behind-the-scenes differences in technology are of little importance to the buyer, nor should we ask him to buy solely out of sympathy for the Indian. He should be reminded, however, of the difference between nickel silver, silver plate, and sterling silver; and between plastic and genuine turquoise, jet, coral, and shell. There is also the point that the cheaper article is a sham, purporting to be what it is not. Twelve dollars is better spent on a pair of genuine silver and turquoise handicrafted earrings than the tawdry glory of a nickel and plastic squash-blossom necklace.

There are varying views about the actual threat of these manufacturers to the Zuni craftsmen. One disagreement centers around how easily the public is fooled. Differences between the originals and the imitations were apparent to the author after several weeks in close association with the whole gamut of Zuni jewelry, but few tourists have like opportunities, and certain of the better-made imitations closely resemble their handmade sources. There is no doubt that the buyer is often deliberately deceived, or more subtly led to believe he is buying Indian handicraft. One manufacturer sells his wares under the name "Indian Design" and accompanies it with a leaflet capitalizing on the
romance of Indian "symbols" in die stamps (Cf. Adair, 1944: 101-102). As a further irony, the leaflet states "Indian Craftsmen are True Artists," in one of its sub-headings. "Indian Made" has been used to describe machine-made jewelry turned out by Indian machine-operators, and "Indian Maid" is another misleading trade name that does not even assure the buyer of this inconsequential contact with Indians. Deception is largely by understatement or omission; if the buyer takes the trouble to ask whether he is buying Indian handiwork, he may be truthfully informed. Some jewelry labels include the fact that it is made by press, drop hammer, or by casting, but I doubt that this information has much meaning for most buyers.

Another field of quasi-Indian jewelry comes from all-White shops turning out good quality channel work pins, earrings, and other jewelry. The whole silver framework is cast in a single piece by centrifugal casting and the cells are set with fine turquoise or shell. A salesman of this line claims that the equipment used approximates that found in the Zuñis' home workshops, but the Zuñis, as far as the research for this paper determined, do not practice centrifugal casting, nor do their articles have as fine a polish as this White-made channel. This jewelry is highly standardized into a few salable designs which are produced in appreciable quantities and bring high prices. A promoter of
this shop-made channel work states that the reason for its success is that the White shops operate in a businesslike way, supplying what the buyer wants, when and in what quantity he wants. The implication is that the Zuñis are not so cooperative, which is true to a degree. However, the standardization of designs here is, as it is for the bulk of costume jewelry, aimed at a theoretical "average" buyer and lacks the exciting variety and originality of the authentic market.

Attempts at halting misrepresentation. There has been a long-standing fight against the imitating manufacturers. Some concerned friends of Zuñi jewelry advocate the revival of enforcement of the 1932 law prohibiting the sale of the spurious Indian products in national parks and monuments. As it is, whether enforcement is practiced is subject to the particular park administration's policy. It is felt that sufficient exposure of the large tourist public to the genuine jewelry would be enough to assure its wider acceptance over machine-made products.

In 1957 a New Mexico state law was passed forbidding the sale of any article represented as handicrafted by an American Indian unless made entirely by an Indian, of genuine silver, by hand tools except for buffing or polishing, and excluding findings. Another section of this law requires the presence of a sign stating "Machine Made" in
any display of machine-made jewelry resembling the hand-crafted variety. Two manufacturers are protesting the law in court as unconstitutional and unworkable. Actually, the wording has proved to be insufficient to cope with all of the issues concerned.

"Findings" to the hand-craftsman generally, means those machine-made additions which are more cheaply bought than made and which convert a decorative bit of metal and settings into a pin, cuff links, or other useful piece. For a pin, for example, findings would consist of a catch and joint. The opposition lawyer in the above suit has shown that "findings" is understood in the jewelry industry to include every part of jewelry except the stone. The degree of resemblance to Indian jewelry is another source of contention. It is often dependent on the individual's background and point of view. Many current displays of pseudo-Indian jewelry only vaguely resemble Indian designs. Few suggestions of how the law could be amended were discoverable despite general agreement by all concerned that it needed serious revision. One informant would specify the actual findings used by Indians. Another would characterize the nature of "handicraft" by naming the materials used and specifying that, whether or not machines are involved, it denotes there is a cooperation between hand and mind resulting in artistic creation. For instance, while using an electric-grinding wheel, the Zuni who is grinding a stone
must carefully guide the rough stone on its dapping stick. Whether he uses a hand-run or electric wheel, his skilled guidance of the result is still paramount; this is an important distinction to remember. At last report, the law is still under suspension and discussion.

The strong feeling of Indians in these matters is evident in the protest drawn up by the Red Rock Community Chapter House, an Indian organization, against the sale of machine-made jewelry resembling Indian jewelry in the Gallup area. This paper includes a denouncement of manufacturers of such articles for using tribal names without their consent, lowering the selling market, and diminishing the value of their work.

Educating the Public

The stamping system started in 1938 proved to be unpopular not only because of the stringent conditions it imposed on the craftsmen but because the public as a whole did not recognize the significance of the markings. The idea of marking the genuine jewelry for identification is still popular. Some people advocate the stamping of each piece with the individual smith's mark. This system would seem even more confusing to the public than the previous one, considering the numbers of silversmiths. The Navajos have instituted a trademark system that seems to be as good
as anything yet proposed, especially since it is accompanied by publicity. Their large sign can be seen in certain shop windows, stating the following:

RESERVATION MADE
TRADEMARK REGISTERED

(trademark symbol)

NAVAJO
ARTS AND CRAFTS GUILD
A TRIBAL ENTERPRISE
AUTHORIZED DEALER

If the Zuñis were organized into a guild, a similar system could be followed by them. The public would probably appreciate the advantage of some method of recognizing actually handicrafted products quickly and simply. Such advertising dramatizes the controversy between the latter and the imitators, arousing public support.

Educating the public is a desirable objective whether or not it accompanies a trademark plan. Knowledge of and appreciation for Indian arts and crafts have been advanced by museum exhibitions throughout the Southwest and in other areas of the country. Mr. C. G. Wallace has lent jewelry from his large private collection to such displays in San Francisco, New York, San Diego, Walnut Canyon, Santa Fe, and Gallup. Periodicals such as Arizona Highways and
Sunset, directed at Southwestern readers, have published articles to inform the public of the past histories and latest developments in various arts and crafts, and sway their buying tastes. Newspapers supplement this mass education which, unfortunately, generally misses the Eastern half of the country. The yearly Inter-Tribal Indian Ceremonial at Gallup draws large crowds from all sections of the country and sponsors an Exhibit Hall and prizes for the best products. The current year's fair will go one step farther in public education by featuring an exhibit showing contrasting samples of hand and machine-made pieces, with an attendant to explain the differences.

Of course, an immeasurable amount of diffusion of interest in Zuni jewelry is promoted privately, by people who send it as gifts to relatives and friends in other parts of the country. Southwestern cities often contain large numbers of affluent visitors, retired people, or recent arrivals who fulfill this function.
There is no general agreement about the future course of jewelry work at Zuni. Neumann in *El Palacio* has predicted a gradual diminution and final extinction of the crafts as the Indian moves steadily toward a completely White-oriented economy (Neumann, 1956). Certainly, the Zuni already thinks strongly in money terms; he has electricity, cars, and is eager to earn better wages. On the other hand, there is no evidence for any slowing down of jewelry production at the Pueblo. Other crafts have been waning for many years, so long-range viewpoints predict a like extinction for Indian jewelry. Traders and dealers, however, see no withdrawing of either supply or demand and are most optimistic about the survival of this craft. They point out that quality has been perfected, variety is great, and the public is buying well.

On the darker side of the picture are the threats of the imitators whose business is also large and growing. Better synthetic stones are being developed, and the rather patent deficiencies in the cheap, machine-made products may become less obvious in the future. More kinds of Zuni jewelry may become subject to such harsh competition. Some
people feel that this is only the inevitable encroachment of more efficient machine production over handicrafts, a survival among Indians because of their slower development. There is, they say, no defense for nursing along this primitive industry. Besides this consideration, there is the one of the present low scale of payment to the Zunis which, as they are aware, falls far short of what an unskilled White could command. There is no such strong bond of sentiment for this type of work that would constrain them to follow it for a living rather than any more remunerative work, and future conditions may make this alternative possible.

There are several reasons why the Zunis do not have a tribally-run guild as the Navajos have. When the Arts and Crafts Board was more active, no guild was promoted at Zuni, so they have no previous experience with one. The Zuni craftsman has always operated on an individual basis with the trader. Tribal funds are very low and cannot at the present support such a venture; a marketing technician would have to be employed. Difficulties notwithstanding, a guild could alleviate the problems of the industry in a number of ways. It could purchase tools and materials for members at wholesale prices, and put greater order into the present selling system by acting as a clearing house for all kinds of jewelry at set prices. It would reduce the need for friction with middle men. Such an organization would also
implement any trademark or advertising plan. There is hope that the local road running through the Pueblo will have improved surfacing within the next several years, bringing a large volume of traffic right past the Zuñis' doors. A guild-operated store would greatly augment tribal funds while controlling the unpleasant alternative of a steady flow of tourists visiting private homes, hunting bargains.

Kirk in 1945 listed a set of conditions for assuring the survival of Indian jewelry:

1. Continued public demand.
2. Technological improvement permitting Indians to meet competition with machine-made jewelry.
3. National demand must supplement other markets.
4. The design must remain unique and authentic, but it must also be chic.

The first condition has been met, and, for the second, technological improvements have been considerable. The only advancement in the latter that would retain the handicraft nature of their products would be for Zuñis to use shop methods where there would be greater specialization according to skills, a large pool of equipment, regular hours, and hourly payment. The advantages of this system would be greater output along more businesslike lines. It could be started by the guild at Zuñi; perhaps this would compensate for taking the craftsmen out of their homes and their individually-set hours.

National demand is still not a reality, although the
current market appears very good. The lack of standardization of Zuni jewelry, while a benefit to the buyer, precludes the possibility of any kind of mail-order arrangement. Greater promotion of museum exhibits or articles in national magazines would be a boon to spreading the demand.

Design at Zuni has grown up with little intervention from White groups who are eager to maintain high esthetic standards while not commercially involved. However, many dealers have considerable personal interest in good design and have steered the creative flow into the finest channels. They refuse to sell "junk" and have shown that this is wise business policy. It must be conceded that Zuni jewelry remains authentic, unique, and generally chic. Since concessions to tourist market requirements have the effect of directing production toward cheaper and often less well-designed items, some Whites feel that there should be increased direction towards the discriminating buyers, raising the esthetic level of the craft. Since this group of dedicated buyers appears to be one of the few hopes for the survival of the industry as a well-paid one, this proposal should be seriously considered. Mr. Minton of the New Mexico Association on Indian Affairs insists that if some White person or group were to approach the Indians, offer to pay them well for their finest products, and assure them a steady market, their prosperity and that of the craft
Is Zuñi handicrafted jewelry worth preserving? The writer believes so. Despite the fact that some of it is overelaborate in design, there is much that is exciting and beautiful. If the industry comes under the pressure of other sources of income, the only Zuñi jewelry available will be considerably more expensive than like items are today. There will still be a market for them, but it will be a severely pruned one as most jewelry now sold falls into the lower-priced category. Handicrafted products have the virtue of being an individual's creation, conceived and executed under his own direction. Unlike mass-produced jewelry with its tendency towards mediocrity as it is aimed for large consumption, handmade jewelry may come closer to expressing individual taste and discrimination. There has always been a market for the finest products, whatever their cost, and this market, the author believes, will continue the craft's survival whatever the future produces. There is little doubt that in any case the Zuñís will continue to make jewelry for their own and other Indians' use.
CHAPTER VIII
SUMMARY AND RECOMMENDATIONS

Summary

Zuñi jewelry, while continuing its earlier forms, has evolved a number of characteristic techniques and designs since 1920, using turquoise, sterling silver, coral, jet, and shell in several colors. This jewelry, retaining the flavor of other Zuñi art forms, falls for the most part into five large categories: large-stone, small-stone, inlay, channel, and nugget. A few lesser classes also continue: cast, lapidary, and overlay channel. Great variety in design has resulted from the stimulation of increasing demand and the desire to overcome the price-lowering effects of competition. A domestic industry, jewelry-making is learned at home with equipment largely confined to small hand tools. The tediousness of the work and the low prices lead the jeweler to engage in supplemental sources of income and dispose him unfavorably towards the craft. As other economic resources at Zuñi are limited, however, the craft continues to be widely pursued.

The bulk of the output is directed toward the tourist, who is frequently skeptical of the quality and
prices of the handmade product, with which he is unfamiliar. The sale of genuine Indian handicrafted jewelry is greatly hampered by large sales of machine-made imitations, often subtly or deliberately deceiving the buyer, and depressing prices. Effective legislation to control this threat is still wanting. Education of the public helps offset this drawback in the form of exhibitions and literature about the genuine crafts.

Suggestions for the betterment of present economic conditions and the survival of the craft, despite the eventuality of alternate sources of income include:

1. A Zuni jewelry guild to better control buying and selling and to sponsor such projects as trademarks, advertising, and a pueblo-owned store.

2. Shop methods to put the industry on a more business-like basis.

3. Increased cultivation of the most discriminating segment of the market.

Recommendations for Future Research

The most obvious and desirable objective for future research in this topic at Zuni would be a good survey of the tribal members who engage in jewelry-making to reveal facts and figures on selling methods, time expenditure, specialization, and varying degrees of competence and skill. The feasibility of a tribal guild, shop methods, or other
innovations in the industry at the Pueblo, could be studied. The intricacies of and the possible solution to the credit system would make an interesting inquiry. Any future investigator at Zuñi should be counselled that just as important as uncovering new knowledge is the establishment of sincere, frank understanding with the tribal government before any research is initiated. This phase of "Applied Anthropology" should be fully respected.
Figure 1. Bracelets.
A. Cluster, variously shaped stones.
B. Row bracelets.
C. Inlay.
D. Less common small-stone bracelets.
Figure 2. Bracelets.


B. Channel. Top left: parrots in coral on white shell. Top right: jet, turquoise, coral, and white shell. Lower left: turquoise on jet. Lower right: turquoise, jet, and coral.


Figure 3. Various pins.
A. Small stone.
B. Cast Knife-Wing gods with settings, and large stone with stamped border.
C. Large, representational inlay.
D. Large, representational channel. Lower left: jet and white shell. Lower right: jet, turquoise, and white shell. Rest, standard four colors: jet, turquoise, coral, and white shell.
Figure 4. Various pins.
A. Small, representational inlay and channel.
C. Nugget with coral, various silver treatments with large and small stones.
Figure 5. Earrings.
B. Small-stone pendant earrings. Lower row: earrings of same type with old-fashioned dangles.
C. Various inlay earrings, all representational.
Figure 6. Earrings.

A. Top row: representation channel resembling inlay. Middle row: geometric channel. Bottom row: small stones, polished flush.

B. Teardrop pendant earrings in three different classes: small-stone, inlay, and large-stone.


Figure 7. Rings.

Figure 8. Small-stone necklaces.
A. Birds.
B. Naja pendants.
Figure 9. Small-stone necklaces, chiefly in triple links.
A. Triple links in row design.
B. Triple links in modified row design.
C. Pendants with semi-cluster details and silver panels.
D. Triple links with cluster and row elements combined.
Figure 10. Squash-blossom necklaces.
A. Traditional, small-stone.
B. Leaf-carved stones with stamped naja ornament and blossom ends.
C. Cast squash-blossoms with stamped drops. Naja with irregular stones, stamped wire and drops.
Figure 11. Large-stone pendant necklaces.
A. Leaf-carved turquoises with stamped silver wire and beads.
B. Single large stone with stamped border.
C. Irregular stones with stamped silver border.
Figure 12. Inlay squash-blossom necklaces.
A. Rainbow gods.
B. Sun gods.
C. Butterflies.
Figure 13. Simple, geometric inlay necklace.

Figure 14. Channel squash-blossom necklaces.
A. Adaptation of naja and squash-blossoms to the channel technique.
B. All-turquoise channel work necklace of rainbow gods.
Figure 15. Channel link necklaces.
A. Links resembling small-stone row links in Fig. 8A.
B. Turquoise parrots on jet, in graduated links.
C. Turquoise parrots on pink shell with turquoise border, turquoises raised.
Figure 16. Nugget necklaces.
A. Complex pendants of coral twigs, turquoises and stamped silver pieces.
B. Rococo pendant of turquoise-inlaid coral twig with Spider-Web set turquoises and cast silver foliate forms.

Figure 17. Belt sets.
B. Upper: all-turquoise channel. Lower: turquoise with stamped silver panels.
Figure 18. Concho belts.
A. Small-stone clusters.
B. Upper: inlaid butterflies. Lower: turquoise channel.
Figure 19. Concho belts.
A. Much silver used in raised overlay channel and small-stone.
BIBLIOGRAPHY

Adair, John
1941. Report by John Adair on Silver Production of the Southwest, unpublished, written for Arts and Crafts Board, Department of the Interior. Seen in Department of Interior Area Office, Gallup, New Mexico.

1944. The Navajo and Pueblo Silversmiths, University of Oklahoma Press, Norman, Oklahoma.

Benedict, Ruth

Bunzel, Ruth L.

Hodge, F. W.

Hunt, W. Ben

Kirk, Ruth Falkenburg
1945. "Southwestern Indian Jewelry," El Palacio, vol. LII, nos. 2 and 3, School of American Research, the Museum of New Mexico, Santa Fe, New Mexico, pp. 21-32 and 41-49.

Mera, H. P.
1943. Pueblo Indian Embroidery, Memoirs of the Laboratory of Anthropology, vol. IV, Santa Fe, New Mexico.

Neumann, David L.
Pearl, Richard M.  

Shirley, A. J. and A. F.  

Sperisen, Francis J.  

Stevenson, Matilda C.  

Sunset  
1958. "In the Southwest Indian Country: Shopping for Rugs, Pottery, Basketry, Jewelry," vol. 120, pp. 68-75.