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The Paper Repertoire of the Students in One Elementary School

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THE PAPER REPERTOIRE OF THE STUDENTS
IN ONE ELEMENTARY SCHOOL

A Collection Project
Presented to
the Faculty of the Center for Intercultural and Folk Studies
Western Kentucky University
Bowling Green, Kentucky

In Partial Fulfillment
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Master of Arts

by
Ruby Rufty
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THE PAPER REPERTOIRE OF THE STUDENTS
IN ONE ELEMENTARY SCHOOL

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This collection project is concerned with traditional paper objects made by students in fifteen classes in one elementary school in Bowling Green, Kentucky. Chapter I describes the school and classroom environments and the procedures followed during the collection project. Chapter II differentiates between the play and ornamental items collected, describes the different items and their variants made by the students, and attempts to show what persons (relatives, teachers, other children) or other factors (mass media, the students' environment) affected the paper items made by students. Chapter III statistically evaluates the collected paper items according to the sex, race, and grade of their makers and points out the significance of these variables to the items collected. This chapter also summarizes the study and its limitations.
CHAPTER I

BACKGROUND OF THE STUDY

Introduction

One area of folkloristic study which has been neglected by scholars is the material culture of children. To a large extent, material folk culture study focuses on a few assumedly representative items which were passed on within one tight-knit tradition. These items usually grow out of traditions characterized by isolation or common geographic or socio-economic bases. In other words, the cultural items studied exist within a narrowly focused academic concept of the word "folk." More recently, the concept of "folk" has been extended to include the people of common age, occupational, and social groups, as well as those with common geographic boundaries or isolated lifestyles.

The actual investigation, as well as the defined focus, of folkloristic study is broadening. In the area of children's folklore, studies primarily have been historic-geographic collections of rhymes, games, and other examples of oral lore. But more recent folkloristic studies, such as those by Goldstein and Weiner,¹ employ observation and

analysis of the collecting event. In addition, folklore scholars in each area of the field are not only looking at the items of folklore which are passed on or which change within a given tradition but also at that lore which arises from the tradition.

It is my purpose to examine an example of traditional material culture, paper items made by children in one elementary school. The paper items collected from students have two origins: some have been passed on from family member or teacher to child or from one child to another; others arise from and reflect both the physical and educational environments of the children. First, I will describe the school and art class environments of the students and the procedures followed for the collecting of the paper items. Next, I will describe the students' repertoire of paper items and their variants and will comment on the effects of the mass media and environment on these items. Finally, I will determine whether the sex, race, or grade of the students have influenced their paper repertoire. Conclusions will be drawn from both observations and interviews and statistical analysis of the collected material.

The School Environment

The elementary school in this study is located in a predominantly white, middle-class area in the city of Bowling Green, Kentucky. This school was chosen for study because of its large black student population in comparison with other elementary schools in the county. The school has been integrated fully for two years. Black and white students make up the only sizeable ethnic groups in the school. Although some students walk to school, most are bussed or driven to school by parents every day.
The ratio of black to white students in this school is about one to three. The ratio of boys to girls is approximately one to one. The school offers seven grades of instruction. Each grade is divided into two classrooms, with the exception of the larger seventh grade (which is divided into three classes).

A university professor in charge of student teacher placement in local elementary schools described the staff of this school as very innovative and receptive to new ideas. The principal of the school was interested in my collection project to the extent that it would be a learning experience for the students. Teachers generally were helpful and interested in the results of the collection project.

In this elementary school, students are exposed to educational opportunities outside of the homeroom. Specialist teachers instruct remedial reading, physical education, music (both vocal and instrumental), and art. Educational television is utilized in the upper grades. The school library, a media center of books, magazines, records, and filmstrips, is visited regularly by students. If a particular student is observed by the teachers to have a learning disability, the principal puts that student to work part time for him--running errands or helping clean up--in such a way that the student learns and accomplishes something (to obey orders or to perform a task) from this experience.

Order is kept within the classroom in a variety of ways, ranging from standing the student out in the hall, to keeping the student after school, to spanking the offender. Prohibition of items which disturb class order is left up to each teacher. (Some allow students to chew gum; others forbid it. Paper airplanes and poppers are either frowned upon, collected, or prohibited, depending on each teacher's policy.)
When I discussed with the principal some potential problems created by my collection project (which could include the production of airplanes, poppers, and other items), the principal felt sure that each homeroom teacher could control her or his students.

The Art Class

The principal suggested that I coordinate my collection project with the activities of the art teacher. By doing this, I would both work with the school's organized schedule and be in contact with students in each classroom. I would also be able to observe in the art classes and collect paper items during class periods in which students are accustomed to working with paper.

This elementary school is one of two schools served by the art teacher. In 2½ school days, the art teacher visits all fifteen classrooms in the school. Because the younger child's attention span is shorter, art classes in the lower grades (1-4) are held for only thirty minutes, while those in the upper grades (5-7) last forty-five minutes per class each week.

The art teacher used to have a room designated for art. But since the school is crowded, that room is now used as a classroom. The art teacher pushes a small supply table on wheels into each classroom during the art period. Because of this limited space (and limited funds for art supplies), almost all the work done by students in art class is with paper.

Student artwork often involves cutting, gluing, coloring, drawing, or painting on paper. Art projects are predominantly two-dimensional, with emphasis placed on color, design, and the filling of space on the
paper. For each art class period, the teacher presents a problem for the students to solve within an art medium in any way they can.

The teacher finds that the students (especially younger ones) are interested in and almost expect to make seasonal artwork. So she gears the art projects accordingly. While I observed art classes at the school, the students made items pertaining to Thanksgiving, Christmas, and Valentine's Day. Sports, winter, and bicentennial themes (liberty bells, flags) were also popular with the students. Homeroom teachers decorate the walls of their rooms with student artwork. Homeroom teachers in the lower grades also supplement their science or history lessons with art projects which the students make.

Although the art teacher presents an example of a daily theme within an art medium for each class, she does stress individual variation in the artwork. Often when some students do not want to make the teacher's object of investigation for that day, students will make something of their own liking. In one upper grade class, for example, models of painted trees and birds were shown to the class. Those students who did not want to paint trees or birds painted a horse, a basketball player, the Olympics symbol, a Nazi tank, or elaborations of their names. The teacher does not discourage this type of work, but stresses elaboration of detail in anything the students make. She does discourage stick-like figures or simple outlines of objects. The teacher wants to encourage the students to see and create and does not want to alienate the students from art class.

The art teacher does not evaluate the students in any way, nor does she give grades for the work students do, since the teacher sees no "wrong answer" in art. She does applaud and encourage creative and detailed student work by exhibiting it on bulletin boards or walls in the
school. Art class gives the students a chance to work with their hands. The teacher sees art class as a break from the rest of the students' classes. Generally speaking, the students enjoy art class, criticize their own work, and attempt that day's project with seriousness.

Because the art teacher is in the classroom only once a week and does not give grades for the work the students do, some students view art class not only as a time for making things, but also as a time of non-work, for recreation and for play. Some students, who do not take their work seriously or who are not interested in one day's project, make humorous pictures and use their art projects to gain attention from the rest of the class. In addition, during the art period, the students have more mobility within the classroom than during other times of the day. The spirit of play plus additional mobility within the room can lead to discipline problems which the art teacher must deal with daily.

Observation indicated that student artistic response is not influenced wholly by the art teacher and the individual student. Students often influence the work of each other, basically through imitating others' ideas of composition. For example, in a lower grade classroom in which students were making snowmen during the art period, one student placed a carrot nose on her snowman. Within about five minutes, carrot noses could be observed on all the snowmen being made by students who sat near her. In the lower grades (as in this case), where desks of students are clustered in small groups and the students usually remain in their seats, the imitation is often limited to persons in these groups of desks. But in the upper grades, in which desks are usually placed in rows and in which students move more freely in the room, imitation of artistic objects is more observable among groups of friends. This type
of interaction among students within the art class was also apparent during my collection project.

I have elaborated on the teaching role of the art teacher for two reasons. First, I took on the teacher's role during the collection project by presenting the students with an artistic problem which they were to solve as they wished. Second, the way students responded to the problem I put before them was often influenced by the artistic conditioning they had received in art classes.

Methodology and Procedures

I talked to a professor of education at Western Kentucky University who has charge of placing student teachers in elementary schools. From him I secured information concerning black/white population of the county's elementary schools and the responsiveness of these schools to unorthodox teaching and experimentation in the classroom. This professor arranged an appointment with the principal of the elementary school which I thought would be best suited for my study.

I met with the principal of the elementary school, describing my study and presenting potential problems which might be a result of my study. The principal asked for a written proposal of my study and later asked for a progress report of my collection project.

The principal suggested that I work with the art teacher. She was willing to let me work with her. The art teacher could readily name some paper objects which students make without being taught by her or other teachers--poppers, puppets, airplanes, fortune tellers, circular springs, and "squeegies" (made from a strip of paper with ends folded upon one another to make these stretchy accordion shapes). She suggested that the
students probably knew how to make pinwheels.

I observed art classes with the teacher in December of 1975. I was introduced to the students as an observing teacher. I began to collect paper objects from the students in the middle of January of 1976 and collected on through the middle of February of that same year. I decided to collect paper items from only two or three classes each day, so that I could take notes on items made by students during the class period. I continued to observe the art teacher's classes when I was not collecting paper items.

I had decided to furnish the paper (white business letter or notebook paper which had been used on one side) for my collection project. First of all, I did not want the school to have to furnish paper for my project. Second, if the paper was both scrap paper and my paper, the students hopefully would be more inclined to turn in items they made. Last of all, this paper was intentionally different from the Manila and construction paper used in art class. I had hoped the students would view this collection project as an event separate from art class materials and techniques, as a project in which the students did not have to respond as they had been conditioned in art class (to fill up the entire space on the paper with a creative design). As it turned out, some students used the scrap paper to make only folded or cut designs, while others primarily colored and embellished their drawings, and others used both fold-and-cut and embellishing methods. So the use of this scrap paper did not substantially affect the items made by the students. Scissors were provided from the art teacher's supplies. Each student had his or her own pencil and crayons.
My first collection day was with two first grade classes. The art teacher and I passed out scissors and three sheets of paper to each student. I explained that I was a student at Western Kentucky University and that I wanted to see what students at this elementary school could make out of paper. I wanted them to cut or fold this paper and make anything they wanted to make with it. Initially, I did not give clues as to any items I hoped to obtain. When the students finished making an item, they were to put their names on each item and bring them to me or the art teacher. When they needed more paper, they could have it. The art teacher and I coded items as we received them, according to the race and sex of the student makers (WG=white girl, WB=white boy, BG=black girl, BB=black boy). When students asked questions such as "Can I make an airplane?" or "Can I make a popper?" I answered, "You can make anything you want." I did not openly encourage students to color their paper items, but told them to draw on the items if they should be decorated.

This procedure was followed in all classrooms. I discovered several instances in which the first grade makers described their objects with names I would not normally associate with the objects. Because of this, I decided to add two more questions for the students to answer for each object they made. I wrote all these questions on the blackboard: (1) What is your name? (2) Who taught you [to make this]? and (3) What is it? Because some students needed help to spell the names of persons who taught them to make certain objects, I spelled out some examples of answers they might use, such as "teacher," "friend," "mother," "father," or "I don't know." In some cases, I also had to spell answers for the third question. After they were given these instructions for labelling
the items they made, the students began to make items out of paper.

When about half of the class time for art was over, I held up models of some three-dimensional items, primarily toys (fortune teller, airplane, hopper, helicopter, pinwheel, boat, balloon, football, fan, and crayon box horn).\(^2\) I hoped to accomplish two goals by doing this. First, I wanted students to identify these items by name, even if some of them could not make any of these items. Second, about this time, some students were running out of ideas of items they knew or wanted to make out of paper. By showing students these toys, I was both asking them to name and to construct any of these items which they could make. Because these items were shown to the students, from that point on, more toys and imitations of these toys were turned in, although some students still preferred to make ornamental items.

I had talked to the art teacher to find out what paper items she had taught the students to make. I also wanted to see what items the students might have learned to make from other teachers in the school. I sent each homeroom teacher a questionnaire after I collected paper items from her or his class. Questions involved: (1) giving students clues as to what items they could make during this project, (2) specifically what the teachers had taught the students to make, and (3) any discipline problems resulting from the collection project. I also asked the teachers to provide a drawing of the seating arrangement of the students in their classrooms.\(^3\) As it turned out, some teachers did not respond adequately to all questions asked. Of the fifteen homeroom teachers in the school,

\(^2\)These paper items had been collected several years ago by Ann Wilson for a folklore class at Western Kentucky University.

\(^3\)A copy of this questionnaire is included in the appendix.
fourteen turned in their questionnaires. Only nine answered all the questions posed in the questionnaire.

By asking the students questions about the paper items they made and by asking the teachers what items, if any, they had taught their students to make, I hoped to discover exactly what factors in the school environment may have influenced the items made by students. For each paper item made, a separate study of the names and origins of the item (according to the students) is compiled in Chapter II.
CHAPTER II

COLLECTED ITEMS

Classification of Items

The students in the elementary school classroom were presented with a problem; they were to make as many different items out of paper as they chose, by either folding or cutting the paper. After they received these instructions, they began to make items from paper. Observation showed that some students made different items, while others made more than one of a single item (perhaps because they enjoyed making and playing with that item or because they could not think of something else to make).

To classify the material, I decided to take clues from the students themselves. I instructed the students to give a name to each item they made because I wanted to group the items according to the way the students named them. Several difficulties were encountered with this classification. Some students were very creative in naming items they made. For example, students might make a "star ship," an "SST," a "glider," a "747 jet," or a "Stut Stut" for items which looked very similar. Or students would make such items as a "dyn-o-mite man," a "funny thing," a "z-zan," or a "bebop." But these creative names were not used frequently by students.

In addition, some students cut or folded paper without any particular design or item in mind. After the object was made and after they were asked what the item was, these students would give the paper item a name
of what it most reminded them. So students made folded cutouts which were called "design," "tire tracks," or "three-headed man" because they were asked to give a name to each item and perhaps did not want to say, "I don't know what it is."

Another difficulty was encountered in trying to classify the paper items. Toward the end of the collection project in each classroom, I showed students items which had been made by other persons. Often students would try to make some of these or other items made by students (especially toys). If the items were not folded exactly right, the finished products did not always function as they were intended. But the students labelled the non-functioning objects as bona fide "helicopter," "popper," or whatever.

One other difficulty of classification was caused by the students' bad spelling. Students often asked how to spell words they wanted to use to describe the object or who taught them to make it. Other students spelled words as well as they could and turned in items with information misspelled. For example, it had to be understood that "act teacher" referred to "art teacher," the person who taught a student to make a particular item. In some cases, students changed the names of objects they made so that they could spell the objects' names. For example, one student called his paper item an "airplane" in my presence, but put the word "jet" on the object because he said he could not spell "airplane."

For the purpose of classification, I identified each paper item by the name given to it by the majority of students who made it. But I also noted other creative names given to these objects. When a particular collected item was a non-functioning imitation of a paper item, it was counted as an example of that object (since it was so named),
but noted as an "attempt" to make that object.

Originally I had decided to classify each collected paper item as either "play" or "ornamental" by observing the students' use of the items in the classrooms. But because the students' use of some items was restricted in the classroom environment, another method of differentiating play and ornamental items was chosen. Because recent definitions of play hinge on the participant's control over his or her immediate world,¹ the play item, or toy, is defined in this collection project as that object directly controlled by the student. The play item can either function mechanically or can function by moving through a medium (such as air or water) by the student. All other paper items collected in this project are classified as ornamental.

**PLAY ITEMS**

- airplane
- square puppet
- duck's mouth
- spice man
- horn
- popper
- bird
- flipper
- helicopter; parachute
- football
- fortune teller
- animated picture
- boat
- balloon
- spring
- fan
- doll chain

**ORNAMENTAL ITEMS**

- Three-Dimensional
  - hat
  - cup
  - envelope
  - box (basket; bag)
  - house
  - dog
  - other
- Two-Dimensional
  - pumpkin
  - snowflake
  - snowman
  - heart
  - bicentennial item
  - geometric shape
  - vase
  - other

Description of Items Collected

For the most part, ornamental items chosen for specific description and analysis were those made most frequently by students. In the case of play items, all toys which met the definition of play were analyzed, whether or not many examples of that item were manufactured by students.

In evaluating who taught students to make a particular item, several things must be considered. In some cases, students may have named themselves as originators of the items in order to gain recognition, or simply may not have remembered who taught them to make certain items. Sometimes students named themselves as creators of an item which the teacher had let them make in an art class a few weeks before. It must be recognized that the students, in saying that they taught themselves to make a particular item, may be referring either to the actual construction or to the subject matter involved. So while the art teacher may have taught a student to fold and cut a heart, that student, in scalloping the edge of the heart in an original way, is truthfully saying she taught herself to make the item. So the student's written response to the question, "Who taught you to make this item?" does not always answer the question in the expected way.

Because of this, it was difficult to discover the exact nature of the transmission of knowledge of making paper items. I interpreted the responses, "I don't know," "myself," and "nobody taught me," to mean the student either drew from his or her own imagination to make the item, or does not remember who taught him or her to make the item. Other responses to this question are categorized in the data as "relatives," "teachers," and "friends" (including friends in the particular classroom).
Both photographs of selected paper items\textsuperscript{2} and tables showing the total number of collected paper items according to the sex, race, grade, and classroom of their makers are provided in the appendix.

A short evaluation of how students connected pieces of paper without using adhesives on their play and ornamental items is given toward the end of this chapter.

\textbf{Play Items}

\textbf{Airplane} (see photograph 1, figures 1, 2, and 3)

Out of 359 students in the elementary school, 204 students in all grades made 290 airplanes (82\% of males, 33\% of females; 57\% of blacks, 57\% of whites). Many students made more than one model of an airplane, while others preferred to make two to four examples of one model.

Three models of airplanes were most commonly made by students, what I call the (1) snout-nosed, (2) long-nosed, and (3) inverted-nosed (figures 1, 2, and 3, respectively), although a few students made other varieties (either those shaped like poppers or cylinders or more complex elaborations of the three most popular models). The most common names for these objects were "plane," "airplane," and "jet," although some students gave their items names of specific models (such as "747 jet," "SST," "star ship," "stunt plane," "XRI," and "B-52 Hustler").\textsuperscript{3} Two students attached a paper parachute to the back end of a plane they

\textsuperscript{2}Items photographed were primarily play items or those items of which distinct variants were collected or known in my childhood.

each made. Other variations in design included additional folds, slits torn into wings or tail, and drawings on or in the planes made.

When asked where they learned to make the airplanes, students' written responses showed that three learned from teachers, fifty-two learned from relatives, thirty-nine from friends (of which twenty-five were in the classroom in question), and three learned from a book or origami kit. The rest, 110 students, did not know who taught them or had taught themselves.

When airplanes were made, some students immediately turned in their models. Some competed with each other to see who could make the most different models of airplanes. Others threw their airplanes alone or with friends to see whose model flew the farthest. So airplanes were used in a variety of ways in the classrooms during the collection project.

Square Puppet (see photograph 1, figure 4)

Three structural varieties of puppets were made by students: a square-headed "puppet," "duck's mouth," and "spice man." The square puppet was the most common variety, made by seventy-eight students in the school (23% of males, 21% of females; 17% of blacks, 23% of whites). This model was made eighty-two times in every grade in the school, with nine of the total of seventy-eight students making imitations which were folded like short fans. The puppet ends fit over the four fingers and the thumb. When the user moves the thumb down away from the fingers, the puppet's mouth moves.

More than two-thirds of the puppets were decorated either with drawings of eyes, mouth, or face, with small places torn loose to represent fangs, or with additional paper pieces (such as ears or eyes)
fastened to the main body. A variation in decoration of the square puppet was collected three times. (For example, the mouth, which usually is drawn in the inside center, was located on the outside top of these puppets.) Most items were called "puppet" or "mouth," while a few were called "lady," "frog," "tooth saber," "dog," or "cat," referring to the beings the paper items represented.

Two puppets contained written conversations inside the mouths. One, a Janus-faced puppet, said "Hi!" on one side. But when the puppet was turned upside down, it said "Blah!" Another puppet contained a joke:

Q—Why did the bird fly south?
A—It's too far to walk, silly.

Three students made variants of the square puppet. Two made square-headed puppets only big enough to use one finger, instead of four, and the thumb. The other student made a decorated cylindrical-shaped puppet for one finger.

About half of the students said they taught themselves or did not know who taught them to make the puppet. Five students learned to make the square puppet from relatives and seventeen learned from friends (nine of whom were in the classroom).

Many of the students who made square puppets used these items to mimic the mouths of the human or animal beings they represented. Mimicking involved both the students' non-verbal movement of the mouth-like item and movement accompanied by short conversations or nonsense sounds of students.

Duck's Mouth (see photograph 1, figure 5)

Of ten students, each made a duck's mouth, another puppet variant (2% of males, 4% of females; 2% of blacks, 3% of whites). Eight of the
ten items were made in one fifth grade classroom. The user's hand is placed around the top and the bottom of this puppet. When the four fingers move against the action of the thumb, the duck's mouth opens and closes. Slits are torn into the sides of the mouth to aid its movement. The item was called "duck's mouth" or "mouth" by all who made it.

One duck's mouth was decorated with eyes and hair. Two variants of the duck's mouth were collected. One duck's mouth looked like a paper hat which was moved so that its corners touched to make the duck bill. Another, a "flat mouth," had the roof of the mouth folded properly, but the bottom end flat and unfolded.

Relatives taught two students to make duck's mouths, while "nobody" taught another, and friends taught seven (including five students in one class) to make duck's mouths.

The only use of the duck's mouth observed in the classrooms was the students' movement of this puppet to mimic its mouth motion.

Spice Man (see photograph 1, figure 6)

One black girl in the fourth grade made what she called a "spice man," a third variation of the puppet. This item is placed in the palm of the hand. The movement of the fingers toward the palm makes the folds of the man move, and thus animates him. A face was drawn on the spice man. The girl learned to make this item from her mother.

I asked students in a few other classes if they could make a "spice man," but none could. One student asked if I was talking about a "space man." Since the item looked more like a "space man" than a "spice man," this may be an instance in which the instructor's spelling (or misspelling) of the identification of the item was affected by the
student's pronunciation.

Horn  (see photograph 2, figure 1)

Ten students in the elementary school made thirteen horns (5% of males, 1% of females; 4% of blacks, 2% of whites). Seven of these horns were made in one classroom. Three students made more than one horn. Almost all of the students who made this item demonstrated its use.

Several varieties of horns were made by students. One, a "piccolo," was a thin cylinder with a hole cut out for the instrument's mouthpiece. Another item, a "whistle," was made from a cylindrical-shaped piece of paper folded in half. Two other "horns" were cylindrical, one plain and one with paper fringes on the end. The other nine horns were made to unroll when air was blown into the item. These were identified as "horn," "bugle," "blowing thing," "blower," "party blower," and one "I don't know what you call this."

Two students learned to make horns from relatives, four learned from friends in the classroom, and the other four taught themselves or did not know who taught them to make the object.

Popper  (see photograph 2, figure 2)

This very popular M-shaped item is held by the loose ends. When it is pulled quickly through the air, the inside reverses, making an explosive sound.

Hawthorne, in a brief survey of the folklore of a third grade class, noticed that poppers were made only by boys in her third grade classroom. Unlike her findings, in this study it was found that students of both sexes made poppers. Ninety-one poppers were collected from

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seventy-seven students in the school (35% of males, 8% of females, 37% of blacks, 18% of whites). A good number of the students made and hid poppers in their desks so that they could play with them later. (Several teachers commented that students were playing with the poppers anywhere from a few days to a month later.) Eight students tried to make poppers, but were not successful in making them so that they could be popped.

All but five students called the object a "popper": one called it a "noise maker," one called it a "bomber," another called the object a "poyn-o-mite machine," and two others did not know what to call the item.

Thirty-two students did not know who taught them to make poppers or taught themselves, while seven learned to make the item from relatives, and twenty-nine learned from friends (of whom at least nineteen were present in the classroom).

Most of the students who made poppers wanted to play with them (possibly because they were not usually allowed to play with poppers in the classroom or because they enjoyed making the popping sound with them).

Two students noted that the poppers had dual purposes. One called the item both "popper" and "bird." The other student gave the two names, "popper" and "airplane," to this item.

Bird (similar to photograph 2, figure 2)

Five students in different grades each made a "bird" (2% of males, 1% of females; 1% of blacks, 2% of whites). In all but one case, the birds were folded like poppers, but held on the middle fold instead of by the outer ends. The other bird was a single-folded design with the outline of its head and wings cut out. Two of the five birds
were decorated.

Four students taught themselves to make their bird, while one learned to make it from a friend in class. Several students played with their birds by throwing them like airplanes in the classrooms.

Flipper (see photograph 2, figure 3)

One black male in the seventh grade made a "flipper." This is a quadrilateral paper construction with built-in stand which sits on the ground. The player hits it, trying to make it flip in the air. The student said this flipper was not made "quite right," but made it as well as he could remember. He learned to make the flipper from an uncle who no longer lives in the area.

I asked students in some other classes if they could make a flipper, but no one knew what it was. One student did try to make what a "flipper" sounded like to him.

Helicopter; Parachute (see photograph 2, figure 4)

Models of a helicopter usually were made only after I showed an example to the different classrooms. But the example of the helicopter I showed to the students was a different model than the one the students made. Because some students, especially in the lower grades, identified the item I showed them as "parachute," I decided to classify both helicopters and parachutes together. A few others, on observing the helicopter model, called the item "whirlybird" or "spinner." I observed only one student, who was in an upper grade, making his helicopter before I showed my model to the class.

Two parachutes and five helicopters were made by seven students in almost every grade in the school (3% of males, 1% of females; 0% of
blacks, 3% of whites). Each "parachute" was a sheet of paper connected to an airplane by means of paper laces. They were made by two students who sat beside each other. No one taught them to make these parachutes.

Three students successfully made their helicopter models, while two tried to imitate the item. A helicopter is composed of two ends of a strip of paper growing out of a triangular-shaped figure which will spin in a circle in the air. The attempts were made by folding two small pieces of paper together or by twisting a T-shaped figure. Students who made the helicopter called it "helicopter," "parachute," and "whirlybird."

Of the students who made helicopters, two learned to make them by themselves, two learned from friends (one of whom was in the classroom), and one learned to make the item from a book.

The two parachutes made by students were simply adornments of the airplanes to which they were attached. Because of their design and construction, the parachutes would not have functioned well on airplanes in motion. But the helicopters made by the students were tried out by their makers. All but one of the helicopters could spin to the ground.

Football (see photograph 2, figure 5)

Fifty-eight footballs were collected from fifty-three students in the second through seventh grades in the school (21% of males, 9% of females; 9% of blacks, 17% of whites). Of these footballs, only two were not folded so that the end of the paper could be folded into the football. Only a few students in the lower grades recognized this small rectangular-shaped item when it was shown to them, and then only when it was "kicked" by me. All students who made the object identified it as "football."

Eleven students said they were taught to make footballs by
relatives, twenty-one by friends (including fourteen in their classrooms), and twenty-one did not know or had taught themselves.

No students mentioned the football game associated with this object in my youth. Football use was limited to the distance and straight path travelled by the item when kicked by students.

**Fortune Teller** (see photograph 2, figure 6)

From my own experiences, I knew that this item could be held with both hands and manipulated in two directions as a "fortune teller" or held with one hand and worked up and down like a puppet as a "cootie catcher." When I held up this item for identification in each class, I presented the item to students in both of these positions. Students identified the object used with two hands as a "fortune teller," but only guessed at its use as a "mouth," "monster," or "it's the same thing" in the traditional pose of a "cootie catcher."

In her study, Hawthorne observed that only girls made fortune tellers, although she noticed that a few boys had fortune tellers in their desks. But in this collection project, twenty-four students, including eight males, made twenty-five fortune tellers (5% of males, 9% of females; 6% of blacks, 7% of whites). All but one fortune teller

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5 In this game, the football was kicked back and forth on a table with the index finger. When one person would kick the ball across a goal line, he or she would score six points and have a chance to make another point by kicking the football in the air over a goal. This goal was made by touching thumbs and standing the index fingers on the table.

6 In Mary and Herbert Knapp, "Tradition and Change in American Playground Language," *Journal of American Folklore* 86 (April-June 1973): 135, "cooties" are described as small bugs, like lice, caught by brushing against someone a group of children dislike. The "cootie catcher" would be used to remove the cooties which had been rubbed onto a child.

7 Hawthorne, p. 25.
were made in the fifth through seventh grades. One student attempted to make a fortune teller, but did not turn in the item.

When the item was worked back and forth with two hands in a demonstration in the lower grades, a few students recognized the item, calling it a "number worker," "cootie catcher," "weed catcher," or described it by saying, "you ask it questions," "it has names inside," or "it has girl friends' names inside and has colors and numbers."

Students who made the item called it "cootie catcher," "fortune teller," "love machine" (with your love's name inside), "folding star," "color game," and "future game," or described the item:

I don't remember what it is called. You play with it, you put numbers and colors and phrases on it. Then play tricks on people.

You just pick a color and spell it. Then you come to a number. Then you look under the number.

Has colors on the outside, numbers on the inside, and tells funny things about the person. 8

No student suggested that the item was used to catch "cooties."

Ten of the fortune tellers furnished numbers, colors, or messages (names of students or teachers or fortunes, such as "you will be rich"). One student turned the fortune teller upside down and had a "crown." Another said that in an origami book she had seen a fortune teller turned upside down to make a "candy dish." These were the only two variants of the fortune teller observed or described.

Four students learned to make a fortune teller from relatives, nine learned from friends (five of whom were in the classes), and eleven taught themselves or did not know where they learned to make the

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8These comments describing how to use the fortune teller were written on the object by students who did not know a name for the paper item.
fortune teller.

Use of the fortune teller in the classroom was restricted to moving the item back and forth, either for the maker's own amusement or to show another student how the item worked. No students were observed actually telling fortunes of others in the classroom.

Animated Picture (see photograph 2, figure 7)

The animated picture was made by two students (a white girl in the fifth grade and a black boy in the seventh). Two sequential pictures were drawn on the separate leaves of a folded sheet of paper. To create the effect of animation, the student rubs a pencil on the top sheet, so as to make that sheet wrap around the pencil and reveal the picture drawn on the lower sheet. One student made a drawing of two fighters and a frowning observer who smiles when the blows are reversed on the second sheet of paper. The other student's picture showed a person doing a Russian split. Both pictures were of stick-figure people in motion.

One student called the item a "movie picture" and the other did not know what to call it. Both said they learned to make the picture from a friend. In both cases, these pictures were demonstrated in my presence.

Boat (see photograph 3, figure 4)

A boat, similar in construction to a paper hat, but with a deeper bottom fold, was recognized by most students, but made by only seventeen (5% of males, 5% of females; 6% of blacks, 4% of whites). Most of the twenty-one collected items were called "boat" when they were not confused with paper hats. Two students made a "houseboat" and "sailboat." Three students attempted to make boats, two of which looked to me like
Two variants of boats were collected. One, with a pointed nave (see photograph 3, figure 3), was first called "steamship" and then "Noah's ark" by its builder. The other "boat" was a box with a hinged piece of paper fastened to the top of it.

Two students said they learned to make their boats from a book, one learned from a relative, three learned from friends (one was a classmate), one from the art teacher, and the other ten taught themselves or did not remember who showed them how to make the boat.

Because the only water available in the classrooms was in the restrooms, students did not try to sail the boats they made.

**Balloon** (see photograph 3, figure 5)

Of the six balloons made by six students, all were made by seventh graders (1% of males, 2% of females; 1% of blacks, 2% of whites). Although students in the lower grades could not make the item, some identified it as "balloon" or "box," or described it by saying, "you blow it up" or "you play with it like a ball."

Those who made the item called it "balloon," with one person calling it a "cube." In my youth, this item, called a "water bomb," was filled with water and thrown or dropped on people. When I asked several balloon makers what they did with the item, they said, "it's an ornament" and one said, "you hit it to each other."

Four of the balloons were made in one classroom. There, one student taught two other friends to make a balloon. She had learned to make the item from a relative. Two other students also learned to make a balloon from relatives. One learned to make the item from a make-and-do book. Students did not hit or otherwise use the balloons in any way.
in my presence.

**Spring** (see photograph 3, figure 6)

Forty-nine springs of several types were made by forty-three students in all grades but the first (11% of males, 13% of females; 7% of blacks, 14% of whites). The art teacher occasionally had observed these items, which she called "squeegies," lying on the floors of the classes as she taught art. When I showed this item to students, they called it "accordion" or "spring."

Two varieties of springs were made by students. The more common square spring (see photograph 3, figure 6), is made by continuously interlocking the two ends of a strip of paper. A spiraling spring, whose springiness is derived from the ever-enlarging loops bouncing and dangling from its center, was also made by students. Of the forty-one square springs made, twenty-three were attempts to make the item, which looked more like small fans than springs. The other eight springs were circular, four of which were made in one classroom.

The most popular name for the item was "spring," although six students called it "worm," two called it "grasshopper," and others called it "jumping jack," "bouncing thing," "upsilant," "trip," or "neck."

Most students taught themselves or did not know who taught them to make either kind of spring. Six attributed this lesson to the art teacher, one student said I taught her, one learned from a relative, and one learned from a friend in class. Pressing the square spring or bouncing the circular spring causes them to move.

**Fan**

The fan was a popular item, made by 106 students of every grade
in the school (17% of males, 42% of females; 33% of blacks, 28% of
whites). The 110 fans made were constructed from paper folded back and
forth in narrow strips. Sixty-four of these fans had one end folded up
to make a handle. All students called the item "fan" except for one
person, who made a "fantastic."

Four students learned to make a fan from a teacher, thirteen
from relatives, and the other eighty-nine did not know or taught
themselves to make a fan. One variant fan was collected, which looked
like half of a snowflake.

Doll Chain

Seven chains of paper dolls were made by seven students in the
middle and upper grades of the elementary school (2% of males, 2% of
females; 1% of blacks, 2% of whites). Four chains of dolls were collected
in one seventh grade classroom. The item was called by various names:
"paper dolls," "chain of paper basketball players," "doll chain,"
"double paper doll," and "the fisher." Two examples of doll chains
were decorated with pencil drawings.

Three students made their own chains of dolls without learning
from others, while a friend taught another, a relative taught one, and
the art teacher and a classmate taught two other students to make paper
dolls.

In my youth, chains of paper dolls were bounced up and down,
made to dance. But no students played with this item in any way in my
presence.

Ornamental Items

Although all the play items except one, the doll chain, were
three-dimensional, the collected ornamental items included both three- and two-dimensional paper objects. The students were exposed to the majority of the three-dimensional ornamental items through traditional means, but were exposed to some of the two-dimensional ornamental items either by the art teacher or the homeroom teachers at the elementary school. Other two-dimensional ornaments seemed to be the students' own creations.

Three-Dimensional Ornaments

Hat (see photograph 3, figure 1)

Fifty-three hats were made by fifty students from all grades in the school (11% of males, 17% of females; 21% of blacks, 11% of whites). Of those made, ten (all collected in the lower grades) were attempts to imitate hats students saw, two were "Pilgrim" hats (which looked like the traditional nurse's cap), and two were square-topped "Dutch hats." "Cap," "witch's hat," "sailor's hat," and "hattery battery" were names also given to this item.

Of the students who made hats, six learned from relatives, four from friends (one of whom was in the classroom), two from the art teacher, and one from a book. The rest of the students did not remember who taught them to make hats or they taught themselves. A few students tried on their hats before they turned them in to me.

Cup (see photograph 3, figure 2)

Three varieties of three-dimensional containers were made by students: the cup, envelope, and box. Nine paper cups were made by six students in the third through sixth grades (1% of males, 3% of females; 2% of blacks, 2% of whites). Students did not recognize the
cone-shaped variant I showed them for identification, nor did they make examples of that variant. The cup they made was similar to a cone, but had a square bottom.

Each of the six students made a "cup" or "water cup." Two (a brother and sister in separate grades) learned to make the item from a relative, two learned from teachers, and the other two did not know who taught them to make a cup.

Two students made more than one cup each. Only one student put water in the cup he made.

Envelope

Another container made by students was the envelope. Nine students turned in one each of these items (1% of males, 4% of females; 1% of blacks, 3% of whites). It was called "letter," "envelope," "note," and "love note" by students. While the "love note" was folded into a triangle, the rest of the envelopes were rectangular and fastened either with paper fasteners, tape, or by folding.

Of the nine students who made envelopes, two learned to fold envelopes from relatives, three learned from friends (one of whom was a classmate), and "nobody" taught the other four students.

Box (Basket; Bag)

A box was collected from eight students in the school (1% of males, 3% of females; 1% of blacks, 2% of whites). A "basket," "box," or "egg box" was made by four students, three of whom were in the same classroom. This was a rectangular piece of paper folded up on the ends and either stapled or hooked with paper fasteners. Two other "boxes" were cube-shaped. One had a flapping lid, while the other was connected with
paper fasteners. A third grader made a "basket," which was a box with six paper handles connected at a common point by folding their ends. A "flower bag" was folded in a way similar to a cup, but had a pointed, instead of flat, bottom. All but one of the boxes were made in the upper grades. The art teacher said she had taught students to make a simple rectangular box.

Five students taught themselves or did not know who taught them to make boxes. Two learned from friends in class. The "flower bag" was learned from a relative. One student placed cutout flowers in her basket.

A first grade teacher states that a language arts program on educational television had shown her students how to make paper items, including a type of basket in which to put the alphabetical sounds they had learned that day.

House (see photograph 3, figure 8)

A house was made by each of nineteen students, all in the first four grades of school (1% of males, 9% of females; 4% of blacks, 6% of whites). With this item, the bottom third of the paper is folded up and the upper corners of the paper are folded to the center of the paper. This makes what looks like the outline of a house, which can be decorated on both the inside and outside to look like the student's own house. The art teacher had shown the younger students in the school how to make a house this year.

Most of the items were undecorated and called "house." Other names for the item include "tent," "church," "home," and "story house." Only three of the students attributed the origin of the item to the art teacher. Two learned from relatives, one learned from a friend, and the rest taught themselves to make a house.
Dog (see photograph 3, figure 7)

The dog is a cutout with an ear that folds over the two-dimensional face of the animal. Three students made one of these items (1% of males, 1% of females; 0% of blacks, 1% of whites). All three "dogs" were decorated, with mouth and eye drawn on the face. One student reportedly taught himself to make the animal, one learned from a relative, and the third learned from a friend in the classroom.

Other Three-Dimensional Ornaments

Nineteen students made twenty-three other three-dimensional ornamental items (7% of males, 8% of females; 6% of blacks, 8% of whites). These items included a straw ("something you put in water"), a decorated teepee, a three-dimensional outline of a "star," flowers, a funnel, a cigarette, chairs, cars and trucks, trees, a book (including narrative), Japanese lanterns, a tent, spy glasses, an eyepiece, and a pompom.

The art teacher had taught students to make teepees and flowers (from tissue paper). A fourth grade teacher had taught one of her reading groups to make lanterns. (Those who made lanterns were presently in the sixth grade.)

Of these items, the "book" was elaborately made. It contained four pages, bound with a knotted cord made of paper. The narrative, "The Story of the Lost Rabbit," was written by the fourth grader.

Once upon a time there lived a rabbit named Robby. Robby and his mother lived in a hole in a tree trunk. One day Robby was walking and he got lost. He got in a clover field and started eating clover, so that he would not starve. Then night started to fall. He slept in the clover feild [sic]. The next morning his mother looked and looked for him. Finally she found him. He was safe and unhurt. Then Robby said, "I will never go anywhere unless I tell you where I'm going." The End.
Two-Dimensional Ornamental Items

Basically, the two-dimensional ornamental items were constructed in two ways. Thirty-one percent of these items were simply cut out of paper, while sixty-five percent were constructed by folding and then cutting the paper. All the two-dimensional ornamental items studies in detail had been introduced to the students at the school.

Pumpkin

In this elementary school, the art teacher and classroom teachers dealt heavily with seasonal art. At least one teacher had her students make pumpkins this last fall. Pumpkins were made by each of five students in the school (1% of males, 2% of females; 2% of blacks, 1% of whites). Four called the item "pumpkin," while the other called it "jack-o-lantern." All pumpkins were made by folding and then cutting the paper. Three students said they learned to make pumpkins from teachers, while two taught themselves.

Snowflake (see photograph 3, figure 9)

Several teachers reported that they had taught their pupils to make snowflakes. Seventy-four snowflakes were made by sixty-one students in all grades (12% of males, 29% of females; 7% of blacks, 26% of whites). This figure includes those items of similar construction labelled "snowflake," "doilie," and "design." In all but one case, the snowflakes were made of folded and cut paper. Eleven students said they learned to make snowflakes from relatives, while twelve learned from a teacher, and four learned from a friend in class. The other thirty-one students taught themselves or did not remember who taught them to make snowflakes.
Snowman

I observed snowmen being cut and decorated in four art classes before my collection project began in January. Of those made during this project, all but one were folded cutouts. Eight snowmen were made by seven students in five grades (0% of males, 3% of females; 3% of blacks, 2% of whites). Five were decorated with drawings. All but one, the "abominable snowman," were classified as "snowman." One student learned to make a snowman from a relative, while the others said they did not remember or taught themselves.

Heart

The most popular two-dimensional cutout was the "heart" or "valentine," which was made by eighty students of all grades in the school (21% of males, 24% of females; 24% of blacks, 23% of whites). Since the collection project was running until the week before Valentine's Day, the time of year plus classroom decorations associated with the day kept hearts on the students' minds. Of the eighty-nine hearts made, all but twelve were folded cutouts, one had a scalloped edge, and two had the insides cut out. Of the eighty-nine students, nine learned to make hearts from relatives, ten from teachers, two from classroom friends, and the rest, sixty-eight students, from "nobody" or themselves.

Bicentennial Item

Decorations found in each classroom reminded the students that this was the bicentennial year for their country. Also, while I observed in the art classes before I began the collection project, several students, who were making Christmas tree decorations, made "liberty
bells" (complete with the crack) or bells with "1776" written on them.

Twelve bicentennial items were made during the collection project by eleven students in five grades (5% of males, 2% of females; 4% of blacks, 3% of whites). Seven "flags" and one "bicentennial flag" (two of which were decorated), one "bicentennial eagle," two "bells," and one "'76 Bicentennial Salute" (an elaborate drawing of that number) were made by students. Two students claimed to learn to make these items from friends, one learned from a sister, one from a book, and the other seven taught themselves.

**Geometric Shape**

While the art teacher introduces the students to seasonal items, she also teaches them to cut shapes out of paper. In the lower grades, she shows students how to fold and cut geometric figures.

I collected sixteen geometric shapes from eleven students in all seven grades (3% of males, 3% of females; 5% of blacks, 3% of whites). These included three "triangles," three "circles," one "oval," six "squares," and three "diamonds." The art teacher reportedly taught three students, a relative taught one, and nobody taught the other seven students to cut these shapes. Most of these items were folded cutouts.

**Vase**

Another folded cutout shape, the vase, was taught to students in the upper grades. In the seventh grade classes, examples of recently made outout vases decorated by students were on the classroom walls.

Twenty-two vases were made by twenty-one students (5% of males, 6% of females; 4% of blacks, 7% of whites). Seventeen of the twenty-two vases were made in the seventh grade classes. Of the items made, ten were called "vase," two were "jar" (or "cookie jar"), one was a
"jug," six were "pots," and three were called "Indian pottery." None were decorated. Sixteen students said the art teacher taught them to make vases, while other five said they made the item themselves.

Other Two-Dimensional Items

Two hundred and ninety-seven other items, usually not numbering over three of a kind, were made by 169 students. Eight were foods, four were flowers, nineteen were animals, three were books, four were rockets, eight were trees, eleven were types of transportation, five were masks. Eight were involved with sports. One was a 4-H Club emblem. Some other folded cutouts included such items as a bowtie, a star, a "fat kid," fences, a checkerboard, an hourglass, and a paper weaving. Some simple cutouts, made without folding the paper, included items such as a sword, a "fig newton," a clock, a cobra, hats, a machine gun, tea kettles, a "smashed snail," and a corn cob pipe.

One student in an upper grade cut a folded piece of paper in several places to make a cross and spell out the word "hell." He learned to make this from his priest. Later, he wrote down this story which went with the paper items.

One day 3 men were riding in a car. The driver and the man next to him were always drunk and never went to church at all, except the driver went to church once a year or so. But the man in the back seat never drank and he always went to church. So later on that night while they were riding, they had a car reck [sic] and all 3 were killed.

So when they got to the gates of heaven, St. Peter came to the gate and asked for there [sic] passport. The man who always went to church had a piece [sic] of paper, and while St. Peter was explaining why they needed a passport, the man who had the paper started folding the paper. When St. Peter was done, the man had a rectangular shape. So he tore a little piece of paper and gave it to the man who never went to church. Then he tore a bigger piece of paper and gave it to the man who sometimes went to church and he kept the big piece for himself because he always went to church.
So the two bad men opened theres [sic] and put it together and you know where they went.

But when the good man opened his [piece of paper] he didn't have any trouble at all getting in [to heaven].

I have heard this same story and demonstration from two of my relatives.

Students Use of Paper Fasteners

A technical problem arose when students needed to fasten together two ends or pieces of paper to make the item they desired. Because I instructed the students only to fold or cut their paper and because I did not expect students to make items which might require glue, tape, or staples, I did not furnish any of these for students to use during the collection project. When students needed to use glue, tape, or staples to fasten objects they made, some went to their classroom teacher's supplies.

Other students tore or cut their paper and devised means of connecting the paper pieces. Four methods were employed. One way to connect two separate pieces of paper (such as a flower to its stem or a stop sign to its post) was to slide the smaller piece of paper through a slit in the larger paper, fold the end down, and press. Of the twenty items made with paper fasteners, fourteen used this method.

Three students made items in which slim paper strips were actually tied together to hold a cube, fan, or book together.

A third way of connecting two pieces or edges of paper is sometimes seen in holding together pages of a written report. The ends of two or more papers were folded down and two short strips were torn on this fold. The tab made from the torn strips was folded down, clamping the paper together. (An example of this method can be seen on the flipper in photograph 2, figure 3.)
One other way of connecting two or more pieces of paper was used in items made by two students. Two small slits are made on the piece of paper which will overlap the other. The tab created from these slits is drawn through a cut on the inner piece of paper. When this tab is pulled inside, it is split, lengthwise, in half, with each half bent in the opposite direction. The double tab which is formed is the most elaborate method used by the students to hold the pieces of paper together. (This method can be seen in the boat variant in photograph 3, figure 3.)

Effects of the Mass Media and Environment

Although most of the students who made paper items learned to make these items from either relatives, friends, or teachers, others learned to make certain items from television or from books. According to one teacher, one class learned to make a paper box on educational television. In addition, students learned to make two airplanes and two boats and one each of the helicopter, balloon, hat, and a "'76 Bicentennial Salute" from books. One other student discovered a new model of an airplane and an alternative use of the fortune teller, that of a "candy dish," from an origami kit.

Not only have some students learned to make certain paper items from different mass media, but some students' cutout items reflect the subject matter of mass media. Two students cut two-dimensional sharks, one saying he was making "Jaws," with the other friend following suit. Another student made a model of the Hindenburg, a dirigible which is notorious for meeting an unfortunate end. The movie, "Jaws," had been a very popular film in Bowling Green over the summer, while "The Hindenburg," another disaster film, had been previewed by the local
theatres during the time I was observing the students. Another student made the "Lone Ranger's mask," referring to the disguise of a cowboy hero on a television serial currently being re-run on a local station. One other student made a comic strip featuring Peanuts, the dog. (Peanuts is often observed by the art teacher as the subject matter in the students' art work.)

The mass media also seem to have influenced the names given to some items made by students. For example, three items made by one student a popper, a star, and a man, were called "poyn-o-mite," "dyn-o-mite star," and "dyn-o-mite man," respectively. The term "dyn-o-mite" has been introduced into popular usage among children through a weekly television series, Good Times, and through at least one Saturday cartoon series. Cups, tee shirts, and hats have also appeared on the market bearing the word, "dyn-o-mite." I suspect that mass media has also influenced the use of other words. For example, the recent popularity of the song, "I'm Just a Love Machine," may have influenced some students to name the "fortune teller" a "love machine."

While some paper items which students made reflect aspects of the mass media, other items reflect other aspects of the environment of the students. When a child makes an object, states Gardner, a psychologist, he or she relates "what he has 'made' to objects or aspects of his experience."9 In the case of this collection project, the ornamental cutout paper items made by students often reflected objects and experiences in their environment. Paper items representing food were made eight times, animals were made thirty-nine times, toys were made eighteen times, and

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modes of transportation were made eleven times by students. Clothing, flowers, the supernatural, and war were among other topics reproduced by students in the paper medium. These paper items represent things which have made an impression on the individual students, items to which the students were exposed by others (such as their teachers or other adults), or items which the students themselves created.

While the three-dimensional play and ornamental items are, for the most part, examples of traditional material culture, a large number of the two-dimensional ornamental cutouts made by students are examples of material culture growing out of the students' view of their environment. These cutouts may well be items which more accurately reflect important influences in the students' lives.
CHAPTER III

ANALYSIS AND CONCLUSIONS

Statistical Analysis of Items

So far, I have been concerned with the different items and their variants which students made out of paper. But I was also concerned with who made these items, boys or girls, blacks or whites, and younger or older elementary school students.

Originally, I had hoped to determine by observation to what extent the easily identifiable categories of sex, race, and grade affected the paper items made by students. To discover if the relationships existed between these variables and the items the students made, I classified each item collected according to the sex, race, and grade of its maker, grouped the items into two functional categories (play and ornamental), and then tabulated the number of items made by students in each category. These tables are included in the appendix.

Because my observations were both subjective and limited by and to each classroom situation, I decided to submit the data to more objective statistical analysis. Bob Padgett, a statistician, suggested that I compute the "Z" statistic in a paired comparison test to determine if the independent variables of sex and race were linked to the dependent variables, the items made by students. ¹ The "Z" value for both play

¹Bob Padgett, a friend and statistician certified with the state of North Carolina, made this suggestion after I described the collection project and what I hoped to evaluate in it.
and ornamental items was found by using the equations,

\[ Sd^2 = \frac{\sum d^2 - (\sum d)^2 / n}{n - 1} \quad \text{and} \quad Z = \frac{d}{Sd / \sqrt{n}}. \]

The results of the analysis paralleled my own observations in the classrooms. The sex of the students was not found to be a statistically valid variable for play and ornamental items (with \( Z = .143 \) and \( .015 \), respectively, at the .05 level). So neither males nor females were found to make more play or ornamental items during the collection project. This means that although males made more airplanes, horns, poppers, and footballs than females, and the females made more fortune tellers, fans, houses, and snowflakes than the males, neither the males nor females in this school made predominantly more play or ornamental items out of paper.

Neither did statistical analysis show that race affected the manufacture of play and ornamental items. (For these two categories, play and ornamental, \( Z = .024 \) and \( .115 \), respectively, at the .05 level.) Thus, black and white students were not found to make significantly different kinds of paper items. This shows that although black students in this school made more helicopters, poppers, and hats than white students, and white students made more footballs, springs, and snowflakes than their black schoolmates, neither race of students in this school preferred to make more play or ornamental items and neither showed more skill or preference in making complex play items.

Because there were seven grades in the school, seven, not two,

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variables had to be computed to analyze paper items by grade of students. So the paired comparison statistical test could not be used for this analysis. Instead, the relative frequency of items per student in the different grades was computed.\(^3\) This data was plotted on a graph found on Table 9 in the appendix. It can be seen that the relatively constant number of ornamental items made by students gradually lessened in the upper grades. In addition, the number of play items made by students was found to increase with increasing grade levels.

It was also noticed that the production of certain paper items was confined to certain grade levels. For example, while such items as the airplane, puppet, boat, fan, and spring were made frequently by the students of all grade levels, items such as the duck's mouth, football, fortune teller, balloon, and cup were made predominantly in the upper grades. The level of complexity of these items could have prevented students in the lower grades of the elementary school from making them. Or the process of socialization of the students may have triggered interest in certain items which were rarely collected in the lower grades.

**Conclusions**

This study was an attempt to see what items students of an elementary school could make out of paper which they folded or cut. Depending on the classroom, the students had a time limit of thirty to forty-five minutes to make paper items. They were also limited by

\(^3\)The relative frequency of items shows how many items of each kind were made by the average student in each grade. This number is found by dividing the total number of items made by the number of students in each grade. Padgett, the statistician, also suggested this form of analysis by grade of students.
the physical boundaries and facilities of their classrooms.

The transmission of knowledge to make these paper items was accomplished in several ways. First, students made traditional paper items which had been learned from relatives, friends, or other sources. In some cases, students transmitted to each other the knowledge to make certain items in my presence. Second, the two-dimensional ornamental items were those of which the art teacher or homeroom teachers had made the students aware or had taught them to make. These seasonal items and items representing certain shapes (such as the snowflake, heart, bicentennial item, or vase) were collected in all grade levels. This suggests a continuously taught tradition of paper art extending to all students in the school. Third, the students' paper items reflect not only exposure to items made by relatives, teachers, or other students, but also aspects of their own environments and influences of the mass media.

It was found that these traditional items were not affected by the sex or race of students. But while a relatively constant number of ornamental items were made in each grade, the number of play items made by students increased with increasing grade levels. This fact seemed to be related to the students' mastery of the construction of more complex paper items.

Paper objects made by students were not evaluated in material culture terms of folk art or folk craft in this study. Existing theories differentiating art and craft were neither applicable nor practical in this study. Because of the large variety of items collected and the different levels of sophistication of the paper items (such as attempted imitation vs. more traditional methods of construction or decorated vs. undecorated items), a judgment of the primacy of aesthetics or function
of all of these paper items could not be made on the basis of data collected.

The principal had been concerned that the students learn some skill or concept from my collection project. Although I did talk about the art of origami (Japanese paper folding) in some classes, I did not impart any other knowledge to the students. But following a recent trend in elementary education (to place an object before a child to let him or her decide how to relate to it), I gave students a chance to learn new skills or to create their own design out of paper during the collection project.

As a result of my collection project, some teachers in the elementary school have begun to think of puppets, airplanes, poppers, and other paper items not only as disruptive but also in terms of tradition. When the art teacher described my research project to teachers at lunch one day, at first, some teachers said they could not think of many paper objects made by students at the school. But they eventually remembered items which they, as children, and their students had made from paper. One teacher, who viewed my project with particular interest, attempted to make the collection project both a learning and social event for her students. Another teacher told me she thought traditions were dying off because of television, country clubs, and other structures or products of society which take up so much personal time. My collection project held discoveries for some of the teachers, as well as the students.

I had numerous insights and surprises as a result of visiting

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4 Interview with Robert Otto, Department of Primary Education, Western Kentucky University, Bowling Green, Kentucky, 5 February 1976.
this elementary school. I was introduced to concepts of teaching children's art and was made aware of the powerful effect of the mass media on children's perceptions of the world. As far as the collection project was concerned, I was overwhelmed with the numerous kinds and variant models of paper items made, and with the variety of decorations and methods used by students to fasten their paper objects. The discovery of narratives associated with some paper items opens up a new aspect of material culture investigation in which more study could be done.

If I could plan this collection project again, several changes would be made. First, a random sampling of students would have been preferred to present a more thorough statistical analysis of the items. Second, I would not have shown models of paper items to students to make, since this action sometimes affected the data. Finally, I would have worked out some way, perhaps a class period for show-and-tell, in which the students could learn to make certain items which they saw others make throughout the collection project.
APPENDICES

A. Questionnaire Administered to Classroom Teachers
B. Photographs
C. Tables
QUESTIONNAIRE ADMINISTERED TO CLASSROOM TEACHERS

Please answer the following questions and return this sheet to the art teacher's mailbox. Thank you.

1. Did you give your students any clues as to what kinds of paper objects they were to make for me? If so, what did you say to them?

2. Have you taught your students to make any objects out of paper? Some examples could be snowflakes, pinwheels, lanterns, boxes, wagons, paper dolls, or other items. If so, please list items you taught them to make. Where did you learn to make them—from books, friends, family, or whom?

3. Since I was in your class, have the students mentioned or made any other items out of paper? If so, please describe them and/or turn them in with this questionnaire.

4. Did you have any discipline problems as a result of my class about making paper items?

5. I am also interested in seeing how the students have taught each other to make paper objects. If you will, please give me a copy of your room plan, so I can see if the seating arrangement of the students has any relation to the objects they made.

When my thesis is completed, I will send the principal a copy of it. No names of students will be used.
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<th>Sex of Students</th>
<th></th>
<th></th>
<th></th>
</tr>
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### TABLE 2

**PLAY ITEMS BY RACE**

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TABLE 6
ORNAMENTAL ITEMS BY RACE

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</tr>
<tr>
<td><strong>2-Dimensional</strong></td>
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</tr>
<tr>
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</tr>
<tr>
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</tr>
<tr>
<td>Geometric shape</td>
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</tr>
<tr>
<td>Vase</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
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</tr>
<tr>
<td>Items Made</td>
<td>Classrooms</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------</td>
</tr>
<tr>
<td>3-Dimensional</td>
<td></td>
</tr>
<tr>
<td>Hat</td>
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</tr>
<tr>
<td>Cup</td>
<td></td>
</tr>
<tr>
<td>Envelope</td>
<td></td>
</tr>
<tr>
<td>Box (basket; bag)</td>
<td></td>
</tr>
<tr>
<td>House</td>
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</tr>
<tr>
<td>Dog</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>2-Dimensional</td>
<td></td>
</tr>
<tr>
<td>Pumpkin</td>
<td></td>
</tr>
<tr>
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<tr>
<td>Snowman</td>
<td></td>
</tr>
<tr>
<td>Heart</td>
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</tr>
<tr>
<td>Items Made</td>
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<td>------------</td>
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</tr>
<tr>
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<td>0</td>
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<tr>
<td>Geometric shape</td>
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<tr>
<td>Vase</td>
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<tr>
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### Table 9

**Relative Frequency of Items Per Grade**

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<th>Grade</th>
<th>Play</th>
<th>Ornamental</th>
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<td>1.37</td>
<td>2.22</td>
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<td>4</td>
<td>2.49</td>
<td>1.84</td>
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<td>5</td>
<td>3.05</td>
<td>2.09</td>
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<td>1.57</td>
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<td>7</td>
<td>2.44</td>
<td>1.45</td>
</tr>
</tbody>
</table>

**Average**

- **Play**: 2.17
- **Ornamental**: 1.80
SOURCES CITED

A. THEORY AND FIELDWORK CONCERNING PLAY


B. OTHER SOURCES


C. INTERVIEW

Otto, Robert. Department of Primary Education, Western Kentucky University, Bowling Green, Kentucky. Interview, 5 February 1976.
B4, F9