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Biographies of black female scientists and inventors : an interdisciplinary middle school curriculum guide : "what shall I tell my children who are black?"

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BIOGRAPHIES OF BLACK FEMALE SCIENTIST AND INVENTORS:
AN INTERDISCIPLINARY MIDDLE SCHOOL CURRICULUM GUIDE:
"WHAT SHALL I TELL MY CHILDREN WHO ARE BLACK?"

A Dissertation Presented

by

ARLENE HAMBRICK

Submitted to the Graduate School of the
University of Massachusetts in partial fulfillment
of the requirements for the degree of

DOCTOR OF EDUCATION

May 1993

School of Education

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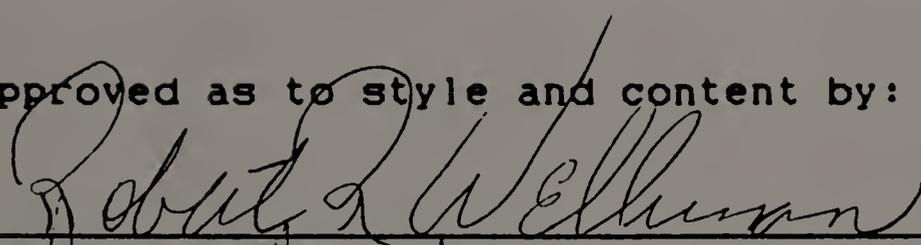
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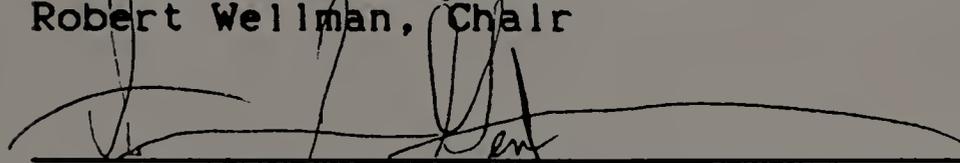
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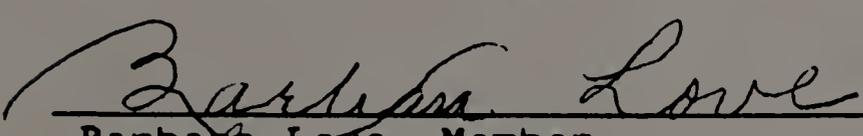
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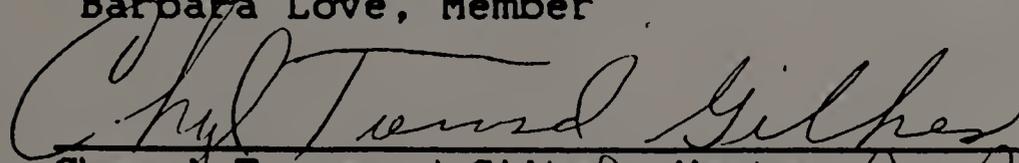
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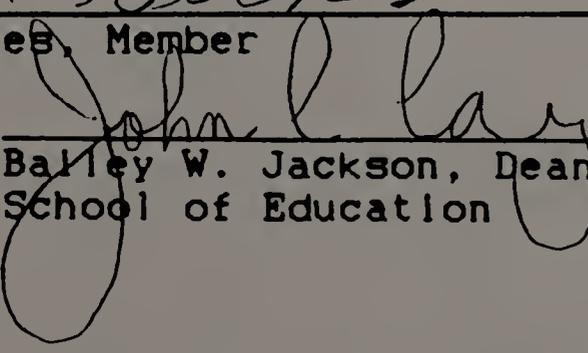
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ABSTRACT

BIOGRAPHIES OF BLACK FEMALE SCIENTIST AND INVENTORS: AN
INTERDISCIPLINARY MIDDLE SCHOOL CURRICULUM GUIDE "WHAT
SHALL I TELL MY CHILDREN WHO ARE BLACK?"

MAY 1993

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The purpose of this study is to gather and present biographies on afro-american female scientist and inventors to be used in interdisciplinary units of core curriculum. Black female students without the benefit of experiencing black female scientist and inventor role models during their school career, lack appropriate modeling for choosing careers in the fields of science and technology. The youngsters are therefore underrepresented in professional science careers and are usually relegated to low paying jobs and poor self esteem.

The development of these biographies of black female inventors has shown that black women have historically always had a strong committment to science and inventive technology in America. Yet, there is a

lack of discussion about these women. It is as though they never existed. It is also noted, through the biographical interviews, that black women have not relied on white support of themselves in their science and technology careers for they have understood that not to be included has been a political statement made by the state and the nation about their being. What has been uncovered in these biographical statements is not new to the women themselves. Invisible dignity, unshouted courage, and quiet grace have been the attributes utilized to encouraged each to find meaning in her life and to create something where nothing was before.

To arrest this incomplete educational tragedy, a sample interdisciplinary curriculum guide utilizing the biographical profiles of one of the women has been developed in order to offer educators examples of appropriate curriculum development for black female students.

It is generally agreed that the differential representation between black females and persons of other racial and gender groups in the scientific community is especially presaged by educational patterns at the elementary and secondary levels. Schools simply are not offering role models for these youngsters to bond with. It is expected then that this

study, designed especially to be used at the elementary and middle school levels, will be a beginning tool for promoting change in an usable and exciting manner.

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CHAPTER 1
INTRODUCTION

Background

Black female children are certainly being denied appropriate and equitable educational opportunities in American classrooms.

It becomes difficult, at best, to explicate models of how black female children are being miseducated. For every time the subject is approached in and out of the academic milieu, voices are raised seeking to obscure the primordial question: Are black female children actually receiving inequitable educational opportunities in American classrooms? Sporadic voices ask proverbial questions like: isn't this also true of black boys? Aren't black boys receiving less education than any group of youngsters? How about women in general, not just black women? Aren't black females, as a whole, doing better in elementary and secondary schools than black males or hispanic students? Isn't it true that more black girls go to college than black men? Don't we have more black professional women than black professional males? Haven't black women almost caught up to where white women are on the job market? The fallacious questions just keep coming. For some reason people (students, professors, white men and

white women and of course, black men) become very disturbed and defensive when the topic of black women is approached.

There are many myths in the world today about who black women are, what they want, what their socio-economic status (after this socio-economic status will be written as SES) is, and how they are managing their self-esteem? When I was a youngster, the phrase -white men then black women, was the dernier cri. Everywhere you went people actually believed that white men and then black women ran the universe. No one, except black women themselves, were willing to accept anything else. However, the superwoman myth has grown so much that even black women have come to admit the reality in Michele Wallace's Black Macho and the Myth of the Superwoman. People were absolutely persuaded that black women were the most prestigious and powerful creatures on this earth next to white men.

If a black man couldn't get a job, folks would always lift up a name of some black female that had gotten one and would tell him to "go and do likewise". When a young black boy had trouble getting his school work done correctly, parents wanted to know why he couldn't be more like his sister. After a fifty year old man was laid -off from his job and couldn't find another, the roll call of numerous black women began

and examples of their being his senior yet always managing to find a job were placed on a table for him to 'sup from'.

For decades, black women have been idolized for their ability to move mountains, to cross waterless deserts, to turn stones into pots of soup for the neighborhood, make bricks without straw and raise families without fathers. Black women have been held up, celebrated, worshipped, treasured and used as role models for so long that even they (black women) had become encapsulated in the folktales whirlwind that hovered about their heads.

In reality, the stories that were being passed from generation to generation were just that- stories. Yes, black women have often been able to work when black men and even white women couldn't find jobs. But nobody wants to talk about the kind of work that they did. Nobody wants to hear how they were the first ones up in the morning, fixing breakfast for their families and then walked or rode miles to 'wait' on the white folks. To make their breakfast, straightened their beds, wash and iron their clothes, scrub the floors on their hands and knees until their hands were bleeding and sore and their knees were so filled with "old Arthur" that they could hardly walk or stand by the end

of the day. And all for \$1.50 a day. I remember my aunt doing this.

Nobody wants to talk about how those same women who worked for whites from sun-up to sun-down came home only to then tend to their own families. No one wants to talk about how black women stayed up half the night kneading bread for the next day, and mending socks for the fifteenth time because they couldn't afford to buy any and didn't have the time, nor energy to knit any.

Yes, black women have had jobs when white women and black men didn't, but consider the ultimate sacrifices that they had to make just to keep their families hanging on. Yes, more black women have stayed in school longer than black males but there is no equity of outcome for black women. Black women have learned some readin' and 'riting and 'rithmetic only to be encouraged to be baby making machines and homemakers and nurturers for men. And although the myths continue even until now in 1992, black women continue to be the scapegoats of everyone's fanatasy, because no one understands, better yet, believes that black women have a story worth telling.

But, we do have a story to tell. That although we have our successes: 70% of us do graduate from high school each year and half of those do go on to college and major in areas that will make us financially

solvent; we also have our failures. Thirty percent of all school age black females drop-out of school before completing 12th grade; the ones who do drop out can't read, write or add; black females continue to hold the highest number of blue collar entry level jobs and continue to receive next to the lowest pay for work done (only hispanic women are lower).

So, we're not the super women heroes that society has attempted to make us out to be. We are misunderstood, misrepresented by others (and sometimes by ourselves), miseducated and underemployed.

There is an Afro-American proverb that says that as the women go- so goes the nation, but if you educate a woman you educate a nation. Afro-American women have a far way to go to get educational equalization and so does the African-American nation.

The Problem Statement

Black female students, without the benefit of experiencing black female scientist and inventor role models during their school careers, lack appropriate models for choosing careers in the fields of science and technology and therefore, continue to be

underrepresented in professional science careers (Steinkamp, 1984).

Undoubtedly, there are a variety of antecedents that have facilitated this state of affairs. This disturbing fact leads one to ponder if the differential representation between black females and persons of other racial and gender groups in the scientific community is presaged by educational patterns at the elementary and secondary levels. If the schools are indeed to blame for this state of affairs, several complementary questions must be addressed: (a) what is the history of Afro-American female scientists and inventors in this country? (b) should schools be instrumental in helping students choose life careers? (c) are schools providing appropriate role models that will lead black female children into scientific fields? (d) if not, what are the factors impeding schools from taking such a role in the lives of black female students? There is currently, no complete review of this problem that can provide a comprehensive summary of knowledge on this particular topic.

Yet, research shows that black girls have, through their school experiences, been stifled, misled and miseducated. Stifled, because, for black female students, school systems and teachers are agents of repression. The rules of the educational game are

designed to favor the upper classes. The educational system's curricula, pedagogy and evaluative criteria are designed to favor the interests of the powerful. When a black female enters the classroom with her jeri curl, or corn rows and head wrapped up in a gele with ten silver bracelets on her arms, just her very mannerism, hair and dress style, and linguistic ability to roll those 'his and 'hems and be's with ease off her tongue, she is then devalued by the school. She is from the outstart considered a failure, for she has failed to realize that the curriculum, grading system and disciplinary code all reward middle class traits, values and skills.

Black female students are misled, for the achievement ideology that is generally acknowledged in the school system promulgates a lie for her. This ideology propagates that education is the panacea for the problems of social inequity; that once she has successfully completed school, that the schooling itself will make the race for prestigious jobs and wealth an even one that will place her on an upward trajectory.

Black female students are miseducated, for although the teachers, through the curriculum, should be able to validate her identity as part and parcel of her growing up process, it makes her invisible and

voiceless instead. While the schools and teachers should be explicitly working to motivate her and move her to excellence, it sets up social barriers to her success, and makes her to believe that the problem is her own personal one.

Few, if any, have attempted to teach her about local or national figures with whom she might identify; or who shares her socioeconomic origins, but overcame the odds anyway. Few, if any, educators have included materials that she can use that allows her to draw upon the skills that she has developed at home and has become an expert in. Few, if any, teachers believe in the legitimacy and importance of her feelings, perceptions and experiences as a black female. If black females have not been thusly treated, then maybe, they might come to a different more positive attitude, with a greater measure of self-confidence as a foundational truth for living out their lives (even as scientist and/or inventors).

Black female children are consistently being denied equitable educational opportunities, through the lack of appropriate role models and this is one of the most pressing problems confronting 21st century American educational institutions.

Purpose of the Study

The purpose of this study is to gather and present biographies and autobiographies of black female inventors. The researcher expects that this study will be the genesis of developing black female scientist and inventor role models that can be infused into core school curriculum. Once infused, educators can then begin addressing issues of the severe shortage of black female students lack of incorporation into the world of professional scientist.

It is a well known fact that minority youngsters in America, especially black inner-city students, have higher drop-out rates, display more asocial behavior in school, demonstrate lower self-esteem, attain lower reading and math scores on standardized tests, and for females, experience more teenage pregnancy than their counterparts.

Black female students drop-out of school much sooner than white students thereby truncating their educational experiences; or they remain in school and according to their own admissions, never really reach the pinnacle of their own self-satisfaction through academic pursuit or through purposeful job attainments.

Current research is revealing that although school systems have attempted to implement a variety of school reform packages, i.e. Parent Child Centers, Follow Through, Home Start, Job Corps, Upward Bound, Chapter 1 (and these are just a few of the innovative strategies of the past-present that have been offered as answers for the hope-for- anticipated dream) they have not found reality for black/minority or female increased equitable academic accessibility.

Historically, researchers have focused upon the drop-out rates, pregnancy rates and the low self-esteem of black female students. However, in the past decade, although information is sparse (Smith, 1982; Gibbs, 1985; Jones and Clark, 1986), researchers have focused upon the academic acquisitions, educational aspirations and motivations, education and occupational attainments, self- esteem or self-concepts of black females, teacher perceptions of minority and female students. Yet, each has been studied as separate entities, only a few studies have attempted to pull all these together. This work will attempt to give unprecedented meaning to the educational attainment and lack of proper educational instruction toward lucrative careers in science for black women.

The researcher hopes that the study will provide the basis for understanding the need for

developing an alternative curriculum that infuses Afro-American female scientists and inventors biographies and autobiographies into core school curriculum. It is expected that this infusion will help to:

1. Provide black female scientist and inventor role models that can be infused into core school curriculum.
2. Provide the rationalization for alternative afro-centric curriculum.
3. Pave the way for schools to become more involved in helping students choose life.
4. Increase educators understanding of the factors that impede black female students from choosing careers in scientific fields.

Significance of the Study

It is important to tell the stories of black female inventors and the joys and struggles that many of them have experienced. These stories, like so many other stories of American blacks, must be exhumed, written, and given their rightful place in the larger American story. Without these stories, American history is weaker, or worse, a lie. Without these stories, a significant number of

black females, in particular, and blacks, in general, have no sense of hope or control over their own destinies.

In this study I will recount some of the many stories of black female inventors that should serve to strengthen black female students. We shall discover that these stories shall be a record of people coming to grips with society's inadequacies and inequalities and moving beyond these to a participatory role in this nations technological and inventive creativity. This recounting shall also serve to increase the understanding and the critical appreciation of a system that has the power to withhold membership or ignore worthy contributions of certain individuals while advancing and promoting participants in the world of inventions and creativity.

I view this work as an important task because for too often black students, as well as the black community at large are introduced to a world in which the vast majority of heroes are white. Black student deserve more; they need to know that black expertise has played a decisive role in America's growth and development. They need to hear of the victory

over educational tyranny that is part of their heritage. But most of all, this work is important to me because without it I, too become part of those who withhold the truth from the young.

Limitation of the Study

A review of the literature will show that black females are as academically astute as most other students, that they excel over black males and in some cases white females and in other instances are on par with white males. Yet their lack of success on the job market in the areas of science and technology as seen through their low wages warrants this research.

However, the paucity of research complete in this area, does not allow us to understand this particular research to be a comprehensive statement on the inequalities of educational attainment for black females. This study is only designed to reconstruct limited examples of black female scientists and inventors that once constructed can be utilized as role models.

Through necessity and the need for brevity, units of study, will be limited in

number. There are other women that could have been used however, those used have been selected because of the easy and amount of information which can be obtain about them. This study will be limited to black women role models but one could certainly use this model to develop plans for any ethnic group.

While official records and publications will be utilized whenever possible, these official data may not be necessarily accurate or totally complete and consequently the data used in this study may not be as complete or as completely reliable as one would like. Much information will come from the census records, newspaper clippings and patent records . Many times the recorders, not understanding the answers of the informants, recorded incorrect information. At other times the informants themselves were not sure of their own birthdays, birth places and/or exact dates of family experiences. We will in those events use what we believe to be the most accurate.

DEFINITIONS

CULTURAL	The totality of the lived experiences, spirit and energy of a particular group of people.
SHEROES	Black females who are admired for their courage, great deeds or good qualities. They are the major females role models in Afro-American history; the exemplary characteristics of black femininity.
EUROCENTRIC	Of or relating to Europe or Europeans. Holding the perjorative outlook from a European perspective.
AFRO-CENTRIC	Of or relating to an African/African American view of the world; one's reference point for valuing, judging, seeing, thinking and being.
SELF-FULLING PROPHECY	A false definition of a situation, which causes a new behavior that makes the originally false conception come true.
CASTE-LIKE MINORITY	A person or group of persons that are permanently placed in the lowest possible social rank in a country based solely on their sex, race, or socio-economic status.

FICTIVE-KINSHIP

The relationship between persons not related by blood or marriage, but who have some reciprocal social or economic relationship. It symbolizes a black american sense of peoplehood, and only black persons can establish the criteria for membership.

ASPIRATIONS

Ones' preferences relatively unsullied by anticipated constraints. When articulating ones' aspirations a person weighs her/his preferences and desires heavily.

EXPECTATIONS

The weight of ones' preferences concerned either by self or others tempered by perceiving capabilities, perceived constraints and available opportunities.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

There is a major crisis in education today that comes from the fact that black and minority students, females in particular, make up a large percent of the school population in this country but receive neither equality of treatment in school systems nor equality of outcome in most school environments.

This review of the literature is the first of a two part project in curriculum development. The project itself, will be an interdisciplinary curriculum guide for middle school students that will assist black children's cognition and awareness of black women's contribution in the field of science and american inventiveness.

Students, black females in particular, will be able to taste and delve into the historically long and continuous movement of ideas, creativity, passion, inventiveness and powers of these heroes.

The curriculum will also seek to facilitate a common ground of knowledge for all children, so that they might expand their knowledge of other cultures and thereby be challenged to learn even more about their own culture.

thereby be challenged to learn even more about their own culture.

This review is a rationalization for the need of a curriculum design such as this.

It has been difficult at best, to find research studies that have focused on gender, race and socioeconomic status as it impinges upon academic attainment of students in minority groups. Some researches have focused on academic acquisitions, educational aspirations and motivation; education and occupational attainments; self-esteem or self-concepts as separate entities. There is very limited (Smith, 1982; Gibbs, 1985; Jones & Clark, 1986) information available for various female racial groups on how these variables might interact to produce usable information on equitable education for minority females. The sources used will of necessity focus on the educational experiences of black females. For even though the research is limited, more studies have been done concerning this topic and this population than among other female minority groups.

This review will seek to answer three questions about this phenomenon. How does race impact on educational attainment of black females? How does gender impact on educational attainment of black females? How does classroom interactions of teachers

with black females impact upon the educational attainment of black females?

The Impact of Race on the Schooling of Black Females

Beliefs and structures

There have been many prescriptions concerning the educational outcome for black female and minority students. The prescriptions usually reflect societal beliefs that are endorsed by the majority culture. The goals and standards which are valued by the majority are utilized as guides for "what should be". Parent Child Centers, Upward Bound, Chapter 1, Head Start, Job Corps, Follow Through, Home Start are just a few of the innovative strategies of the past and present that have been offered as answers for the hoped-for, anticipated dream, but not found reality for black/minority equitable educational opportunity. Instead, we find that they are only the majority cultures' way of offering minute compensatory programs based on the belief that if one were to offer to these students appropriate methods, environments, parenting style, money, programs, materials and personnel were implemented, underachieving minority students would therefore be able to "catch up" with white children.

This view represents a deficient perspective, that assumes that black/minority students lack the skills

for adaptions to their surroundings as well as the ability to attain the knowledge that is necessary for their school achievement, all because they find themselves lacking in biological, cultural, environmental and social sameness as the majority culture. Therefore, these students are unable to make reasonable academic achievements.

Now, educators and policymakers who hold to the viewpoint of cultural deficit perspectives also hold to the belief that schools exist primarily to transmit a body of prescribed knowledge, skills, values, and norms that are essential for existing in this society. Although this view may serve the purposes for majority students, it assumes that schools serve their students equally and that schools are meritocratic and value-free. However, it tends to forget that there is a latent political agenda for black and minority students. This agenda includes as its basis the ability of schools to preserve their historical purposes by maintaining the existing order, in which low-income and minority students are "educated" for less skilled routine jobs and conditioned by schools for obedience, acceptance of authority and external control. This power of the dominant social group determines economic and educational requirements and the interest of the powerful is primarily to maintain

and reproduce the status quo, which results in a system of inequality for others. Freire (1970) states that there is no such thing as a neutral educational process.

Descriptive school practices and policies

If this is indeed true, then one must also acknowledge that no matter the method of instruction or the intervention, black children and other minorities, will continue to be relegated to the bottom of the status hierarchy. As we look back over strategies such as the open classrooms, individualized instruction, new math, mastery learning, discovery learning, competency-based learning, activity centers, co-operative learning, and remediations plans of all types and conclude that these strategies have definitely had limited success in enhancing the learning opportunities of minority children.

Some even believe that black childrens' school failure and economic deprivation are related to their inferior intelligence, attributable to blacks' history of slavery, segregation and limited opportunities. Bowles and Gintis (1983) concluded, however, that although higher IQ and economic success tend to go together, higher IQs are not an important cause of economic success. They found that the intellectual abilities developed and certified in school contribute

little to getting ahead economically. The real function of IQ they contended, is to "legitimate the sound institutions underpinning the stratification itself".

Schools, in their view, have a mirror relationship with the workplace. Ogbu (1974) claims that racism and the devalued position of blacks in our society cannot be ignored as a primary contributing factor to black underachievement. He continues by stating that poor school performance by black children is a defense mechanism, an adaptive behavior that black children use to fend off discrimination.

..."Because black people and their children saw no possibilities for reaching their goals and ambitions, they simply gave up and failed to take school seriously because school had no relevance to their lives or the lives of significant others. Fordham and Ogbu (1986), Wilson (1989) said that children respond positively if they observe that older people in their community usually obtain jobs and other societal benefits commensurate with their schooling.

But instead school children have found:

...accumulative structure entrapment and forcible socioeconomic marginalization resulting from

the historically evolving interplay of class, racial, and gender domination, together with sea changes in the organization of American capitalism and failed urban and social policies,...that explain the plight of today's ghetto black.

Eli Ginberg (1988), corroborated Ogbu's work in a study sponsored by the National Commission for Employment Policy. In his interview of eighty Harlem students aged ten to fifteen, a majority of these black youngsters were unable to identify among their relatives, friends, acquaintances a high school graduate who had found the diploma the way into a good job. Wacquant and Wilson (1989) found that their female respondents were more likely than the men to have a best friend who didn't work and who also received welfare assistance.

It seems fair therefore, to say that the schools operate overtly and covertly to institutionalize the status of black children. Ogbu (1978) calls it the "caste-like" status. We shall discuss this meaning later. Instead of existing for the express purpose of providing equal opportunity, by providing expanded opportunities for economic success, school structure is designed instead to institutionalize the unequal

distribution of resources and serve as an instrument by which the powerful maintain the status quo.

The hidden curriculum

One could be led to assume that because certain courses are mandated and therefore similar in elementary, middle and high school curriculum guides that children (no matter their race or class) are receiving equitable, qualitative and quantitative instruction. Research has yet to prove this. Instead, it is shown that although the regular curriculum does not discriminate, the hidden curriculum certainly does. By definition, (Levine, 1989) the hidden curriculum is the unstated but influential knowledge, attitudes, norms, rules, rituals, values and beliefs that are transmitted to students through structure, policies, processes, formal content, and the social relationships of school.

Jackson (1983) has shown that 90 percent of what transpires in the classroom fits this definition. He has listed some examples of incidental yet pervasive learning that black/minority students learn early on in their school careers:

- A. Teachers are more powerful than students;
principals are more powerful than teachers.
- B. Some children are called on to perform favors for teachers; others are not.

- C. Teachers call on well-dressed children more often than poorly dressed children.
- D. Teachers praise boys more than girls.
- E. Interruptions and intrusions are frequent and unavoidable.
- F. No matter how hard some children try to gain the favor and attention of the teacher some will never succeed.
- G. Teachers behave more favorably toward children whose parents participate in school activities.

In reality, this hidden curriculum is not really hidden. Apple (1983) states that this hidden curriculum teaches black, female and low-income children obedience to authority, docility, subordination, extrinsic motivation, external control, dependance and fatalism. When black and minority students adopt these behaviors, it predestines them to low-paying, low-status jobs, diminished self-concepts and feelings of inferiority.

Ray Rist's (1970) work is perhaps the seminal work on social relationships of the hidden curriculum. This work was a longitudinal study of a class of children which he follows from kindergarden to second grade. In Rist's study, by the eighth day of class, the teacher had made permanent seating assignments by dividing the

class into three tables. The children at table 1, sat closest to the teacher, were the best dressed and had a higher degree of verbal interaction among themselves and the teacher, than the other students. Whereas the children at the other two tables often smelled of urine, were not as well-dressed as table 1 youngsters and were darker-skinned than table 1 youngsters as well. Table 3 students also carried the burden of often being on welfare and live in families of 6 or more children. Table 1 students were considered by the teacher to be the fast learners, while table 2 and 3 students were often ridiculed and treated cruelly by the teacher and eventually by each other.

When the students were promoted to first grade the seating arrangements remained nearly the same. The fast learners table took on a new name but the students were the same. No student from table 2 or 3 were promoted to table 1 in first grade nor in second grade, no matter how well he/she could read or perform academically. Rist called this the "caste" phenomenon- belonging to a group where under no circumstances would there be upward mobility. Rist talks about the self-fulfilling prophecy in which a "slow learner" had no option but to continue to be a slow learner regardless of performance or potential". Chunn (1988) states that the self-fulfilling prophecy begins as a

false definition of the situation, which then causes a new behavior that makes the originally false conception come true.

Specifically, the self-fulfilling prophecy effect occurs when teachers consistently treat particular students as different from the way they actually are or can potentially become. This consistent pressure eventually causes the student to become more like what he or she is expected to be. In essence, the self-fulfilling prophecy describes situations in which teacher expectations influence student behavior.

Research by Rosenthal and Jacobson (1968) support empirically that many ghetto children might be the victims of low teacher expectations then become self-fulfilling prophecies. These teachers believed that their students could not learn and were therefore seen as the cause of their own low achievement. Rosenthal and his associates reviewed fifteen years of research and found that teacher expectancy effects of some type occurred in two-thirds of the 345 persons interviewed.

The hidden curriculum reinforces societies' status quo by reinforcing the prejudicial view that black children, particularly low-income black/minority

children, are incapable and inferior. Rists' study shows how teachers (and these were black teachers) had decided that low-income children could not learn. So these children were virtually written off by the time they were five years old. Just one more example of how schools collaborate in maintaining poverty, inequality, and the unequal status of black students.

Rubovits and Maehr (1973) provided data that presented disturbing instances of white racism. Black students were given less attention, ignored more, praised less, and criticized more than white students. Even the "gifted" black student was given the least attention, was the least praised and the most criticized even when comparing him/her to her/his nongifted black counterparts. In Rist's study the youngsters were not previously tested so there were no official academic leads concerning their abilities while in Rubovits and Maehr study in actuality all the students were of the equivalent academic ability regardless of race. All this was unknown to the teachers.

Sandra Damico and Elois Scott (1987) sum it up well as they are in agreement with Rist that the socio-political process and self-fulfilling prophecies for black children begin as soon as they enter school. The review of the literature shows that although black

and white female students are found to be academically equivalent in the early grades, teachers chose to reinforce academic achievement among white females but social behavior among black females. This is seen as white female students are asked to help other students with their academic work while black students were used to helping only with non-academic tasks.

Tracking

A second practice that has proved harmful to black, female and minority students is that of tracking. Tracking as a practice was first used in the late nineteenth century as a convenient mechanism to teach immigrant children who spoke little or no English. The practice was to separate these children from middle-class American born students, because the school officials considered the immigrants to be filthy and inferior. The object of their education was to Americanize them and make sure that they did not contaminate the native-born, middle-class students.

By World War I, intelligent tests had been developed and school administrators used these measures to justify their decisions to separate children by ability. Lewis Terman, (Oakes, 1985) a founding father, in 1916 wrote:

Their dullness seems to be racial, or at least in the family stocks from which they come.

The fact that one meets this type with such extraordinary frequency among Indians, Mexicans and Negroes suggests quite forcibly that the whole question of racial differences in mental traits will have to be taken up anew...There will be discovered enormously significant racial differences which cannot be wiped out by any schemes of mental culture. Children of this group should be segregated in special classes...They cannot master obstructions, but they can be made efficient workers.

In spite of the inadvisability of using tracking (Hallinan & Sorensen, 1983; Leftkowitz, 1972; Oakes, 1985; Rist, 1973; Gounder, 1978), schools continue in its practice. They continue to separate children by race and class which is a perpetuation in maintaining and reproducing a system of social and economic stratification as designed by the majority culture.

Alexander, Cook, and McDill (1985) reported that tracking serves the interest of higher status parents who exploit these measures to make sure that their children will experience success in school. They contend that these parents understand the system and know how to manipulate it in order to guarantee that their child will be placed in a gifted or honor track.

These parents are also aware that maintaining a seat in a gifted track most likely will lead to a prestigious college which eventually will take their child to a prestigious job and then of course, the cycle just repeats itself.

Students, on the other hand, who are assigned to lower or vocational tracks, usually receive an education that is very different from students in the upper tracks (Goodlad, Rist, 1970). Lower track education is both quantitatively and qualitatively inferior to the upper track education (Rist, 1970; Oaks, 1985). Whatever, education had to offer students in general, lower track students get less of it and that which they get is most likely unrelated to their lives and consequently is alienating and degrading for the students, and the students are aware of this (Rubovits & Maehr, 1973; Jackson, 1976; Ford, 1985, Ogbu, 1983). Students from high SES are most often found in high ability groups while students from minority groups and low SES are found in classes of the lower ability groups.

From the U.S. Department of Education, Office of Civil Rights 1980 and 1984 Elementary and Secondary School Civil Rights Survey, it is noticeable that although blacks constitute 16.1% and 16.2% of the national student population respectively in 1980 and

1984, they made up 38.7% and 37.3% of the total enrollment in EMR (educable mentally retarded) placements; while whites constituted 73% and 71% respectively of the national enrollment, they made up 56% and 53% of the EMR rates. Blacks are overrepresented in EMR (lower tracks) placement during this time period.

For gifted and talented placements, black students during 1987 constituted 15% of the national enrollment but only 8% of gifted and talented seats, while whites constituted 71% of national enrollment, yet held 81.4% of the seating in the same program. Low expectations do prevail if you are a black student (Rubovits, 1973). What is devastating about tracking is that in lower tracks the number of poor and black students is disproportionately high, the instruction is inferior and ineffective and students suffer psychologically and emotionally.

Understanding the relationship between cognition and ethnicity is difficult. William Wilson (1978) asserts that class, not race, determines the life chances of afro-americans. Banks (1988) countering Wilson, insists, however, that even blacks who are considered middle-class find that their ethnicity influence their behavior more than class. Banks states that:

...ethnicity continues to have a significant influence on the learning behavior and styles of afro-americans and mexican american students, even when these students are middle class. In other words, the research reviewed in this article indicated that while ethnicity is to some extent class sensitive, its effects persist across social-class segments within an ethnic group.

...cognitive and learning styles are influenced by ethnicity across social classes within ethnic group...

Ogbu (1988) believes also that contrary to what other scholars believe that even urban and suburban blacks share a very distinct social identity, a sense of peoplehood and a distinct cultural frame of reference. Banks, 1988; Irvine 1990; Solomon, 1988 all agree that similar cultural characteristics are found in both black middle and lower classes for afro-americans, black Canadians and British intergenerational communities. Generational social-class status needs to be varied systematically so that we can learn more about the tenacity of ethnicity and cognition across generations.

Myths about IQ

After all the years, time and money that has been put into compensatory education for improving the IQ scores of minority children, Jensen (1985), claims that educators have just wasted a lot of money, time and energy. He based this on statistics that show that almost half of all blacks enrolled in school in 1975 were functionally illiterate. His consensus of the Head Start and other compensatory education programs listed positive outcomes such as the improvements of the participants nutrition, medical and dental care, greater involvement of parents, positive self-esteem for students which has resulted in fewer grade retentions. However, he said the major objective was to increase students IQ scores and with that in mind, the programs have been a failure. According to Mr. Jensen black children are just low-functioning persons carrying genes that will not allow them to become more than what they already are. This remains true, even with compensatory education because 80% of IQ is definitely traceable to genetic differences while 20% is traceable to the environment.

Of course, Jensen's attitude toward blacks is just the historical summation of many white historians and carriers of 'European culture'. Hilliard, Payton-Steward & Williams (1990) shares with us that in 1776, David Hume stated that he was apt to suspect

the Negroes and in general all the species of men to be naturally inferior to the whites. In 1812 George Curvier, labeled as the apostle of his age, referred to native Africans as the most degraded of the human race...and whose intelligence is nowhere great enough to arrive at regular government; that in 1831, F. Hegel, led others to believe that ..this is the land where men are children, lying beyond the daylight of self-conscious history, and enveloped in the black color of night...let us forget Africa not to mention it again. The leading naturalist at Harvard University in 1840 wrote that "This compact continent of Africa exhibits a population which has been in constant intercourse with the white race, which has enjoyed the benefit of the example of the Egyptian Civilization, of the Phonician civilization, of the Roman Civilization...and that has never been a regulated society of black men developed on that continent. Samuel George Morton, a prominent medical doctor during the same time (1844), declared that "Negroes were numerous in Egypt, but their social position in ancient times was the same then as it is now, that of servant and slaves. Richard Burton in 1880 went on to explain that "The study of the Negro is the study of Man's rudimentary mind. He would appear rather a degeneracy from the civilized man than a savage rising to the

first step, were it not for his total incapacity for improvement. He has not the ring of the true mental. There is no rich nature for education to cultivate. He seems to belong to one of those childish races never rising to man's estate, who fall like worn out limbs from the great chain of animated nature". The founder of the American Journal of Psychology and the first president of the American Psychological Association actually believed that there are certain primitive persons who are just like children in as much as they are in a perpetual state of immature development. In order to understand them, one must treat them gently and with lots of understanding, especially by the more developed people. The greatest hypocrisy comes from the very pen of Putnam Monthly magazine, when in 1856, it is reported that the most minute and the most careful researchers have as yet failed to discover a history or any knowledge of ancient times among Negro races. They have invented no writing, not even the crude pictures-writing of the lowest tribes; they have no gods, and no heroes, no epic poems and no legends, not even simple traditions. There never existed among them an organized government; they never ruled a hierarchy or established a church.

We need to be aware that Jensen's attitude goes far back into history where the scholars he purports to

know what they are talking about have never even done empirical studies or research on African, black persons.

Daniel Coleman (1988) in his review of current literature uses the arguments of John Ogbu and James R. Flynn to argue that there must be other alternatives to the differences between black and white IQ scores besides that of "deficiency in the racial gene pool", explanation of Jensen. Dr. Flynn found that students taking the 1948 and the 1972 Wechsler Intelligence Scale for Children, scored an average of 15 points higher on the more current test.

Put differently, someone who got an IQ score of 100 in a test from the 1970's would likely get an IQ score several points higher on the same test in its 1950 form. Thus, in general, children today scored higher than their grandparents did on those some tests. ...the upward drift in IQ scores seems to indicate changes in environment because no genetic influence is possible in so short a time.

With this argument, Dr. Flynn is able to discount arguments that deficits in IQ scores of groups like American black are inherently inferior.

Coleman continued by leading us to understand that after the long debate over why blacks score lower and

what it means, that Dr. Ogbu has placed before us a fresh new theory. Dr. Ogbu's theory challenges various other perspectives that have traditionally understood the average 15 point difference in IQ scores as a defect in black heredity and/or home life. His theory points instead, to the social and psychological toll taken by social inequities that have stood in the way of academic success for many blacks.

Caste-like minorities

Dr. Ogbu's emerging theory contends that most American blacks are socially positioned in lives similar to other "castelike" minorities around the world. The Haryans of India, the Maoris of New Zealand and the Burakumi of Japan are all considered lower "caste" persons in their communities.

Ogbu (1983) defines and gives credence to three minority types. Minorities, for him, are any group of persons that occupy some form of subordinate power position in relation to another population in the same society. The three groups are:

1. Autonomous minorities- who are not totally subordinated by the dominate group politically or economically. These are represented by Amish, Jews and Mormons.
2. Immigrant minorities- persons who have moved voluntarily to their host society.

haven't however, lived there long enough to internalize the effects of discrimination so that they have become an ingrained part of their culture.

Chinese, Cubans, Filipinos, Japanese and Koreans traditionally constitute this group.

3. Castelike minorities—they have involuntarily become a part of a society on a permanent basis. Not only have they not opted for this situation, but in the society they find themselves, through birth, to be relegated to a status of permanent subordination. American blacks, Indians, Mexican American and Puerto Ricans most commonly claim membership in this group. Sometimes persons in this group are able to escape by "passing" for white or by assimilating into the dominant group. Most castelike minorities are not interested in assimilation.

Ogbu goes on to argue that although "castelike" minorities in general and black students in particular, express high educational aspiration, they do not put forth enough effort to meet the academic requirements necessary to credentialize them for full adult

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group became so rigidified that they took on castelike characteristics as the school year progressed. As the children completed three years of schooling, it was shown that the teachers develop low-expectation from students they thought to be less capable of high academic attainment. The teachers in this study were shown to consistently treat the different groups different.

Self-fulfilling prophecy

Chunn (1988) calls this the self-fulfilling prophecy. In *Dark Ghetto*, Clark contended that many ghetto children might be victims of low teacher expectation that then becomes self-fulfilling prophecies. Rosenthal and Jacobson are also supportive of this view. Teachers were found to treat students labeled gifted different from students described as average; black students were given less attention, ignored more, praised less and criticized more. Even gifted blacks youngsters were given less attention than their non-gifted black counterparts. Dusk and Joseph analyzed 24 students in which teacher expectancies were assessed as a function of race of the child and concluded that race is a significant factor in the formation of teacher expectancies. Black students are expected to perform less well than white students.

The self-fulfilling prophecy says that you may take an average to above average youngster, expect nothing of them and consequently get nothing from them. Numerous studies have already shown that most students that fall within this category are usually in the low SES, which is why little is expected of them in the first place. Students who therefore experience low achievement also experience low job attainment and become economically marginalize persons. Ironically enough, black youngsters who are experiencing failure in Americas' classrooms and are dropping out of school in unheard numbers actually have high goals and aspirations for themselves.

Ford (1985) conducted a study with ninety-five black students, fifty-three males and forty-five females. The students were administered the self-observation scales by Katzenmeyer and Stenner and the School Atmosphere Questionnaire (SAQ). The Self-Observation Scale measured the way the youngsters perceive themselves and their relationship to peers, teachers and school. The SAQ was used to measure the subjects' perception of the school environment. The overall self-concept scores were high.

Jordan (1981) conducted a study with 328 black eighth grade students and discovered that although the students self-concepts and need for academic competence

accounted for some variance in academic achievement, their basic self-concept had little bearing and no relationship to academic motivation. It appears then, that a black youngsters lack of achievement in school is not related to a lack of goals. It must be then that these youngsters have developed a coping mechanism which limits their striving for academic competencies.

Fictive kinship

Singithia Fordham and John U. Ogbu address the issue of coping mechanisms when they speak about "fictive kinship" and schooling. They define "fictive kinship" as the relationship between persons not related by blood or marriage in a society, but who have some reciprocal social or economic relationship. According to the authors, this term is understood by black youngsters as "brotherhood" and "sisterhood". In essence, "fictive kinship" symbolizes a black americans sense of peoplehood that is in opposition to white american social identity. Because only black people can determine whether or not one is eligible for membership in the "fictive kinship" system, they control the criteria for judging ones worthiness for membership. For black youngsters, criteria for membership is often in contrast to white american social identity group membership especially in black

and white peer relationships. Ogbu and Fordham remind us that:

The influence of "fictive kinship" is extensive...It shows up not only in conflicts between blacks and whites and between black students and black teachers...but also in the students' constant need to reassure one another of black loyalty and identity. They appear to achieve this group loyalty by defining certain attitudes and behaviors as "white" and therefore unacceptable and then employing numerous devices to discourage one another from engaging in those behaviors and attitudes, i.e., from "acting white".

So what happens is that black girls and boys who choose to pursue academic success are perceived by their peers as "being kind of white" and therefore are not really black. This perception gives rise to the tension between those who want to succeed (want to act white) and others who insist upon upholding fictive group identity. Some black students are able to develop strategies to resolve this tension and therefore do well in school. Others succumb to the group identity and usually do not experience high academic achievements. Peer relations have everything

to do with academic pursuit by black youngsters, females in particular.

Black student achievement

Asa G. Hilliard's (1987) ideology of intelligence and the role that it plays in the educational process would certainly parallel the work of Ogbu. Hilliard argues that the rationale of utilizing IQ tests to determine the academic possibilities of youngsters is absurd. He contends that primarily how can one measure what one can yet define. What is intelligence? How does one go about determining its character, and then how does one begin to determine the impact that this concept called 'intelligence' has on the educational status of youngsters. Hilliard contends that intelligence and the IQ test, to date, have not been proven by anyone to have a direct impact upon the educational experience of any child. As a matter of fact, Hilliard says, it would be easy enough to dismiss the validity of IQ testing without even attempting to counter the arguments of its cultural validation, if one would understand that these test are scientifically and pedagogically without any merit whatsoever.

Almost as if in answer to Hilliard, Asbury Adderly-Kelly & Knuckle (1987) conducted a study that depicts the relationships among WISC_R performance

categories and measured ethnic identity in black adolescents. They did not try to give definition to 'intelligence', yet they did make attempts to show that the misclassification of blacks taking the IQ tests are often an invalid manifestation of a persons misuse of IQ tests scores. This study showed that all the subtest on the WISC-R are not directly related to academic achievement. However, for black youngsters, it appears that the scores that deviated most from the norm fell within the categories of language characteristics. The study emphasized that the more pride that blacks take in their own linguistic code and the more black youngsters reject the white linguistic code the lower they score on WISC_R subtests. The results reported that evidence from this investigation suggests that being black may influence certain types of WISC_R performance. Acquired knowledge and conceptual ability seems to have been most susceptible to this influence. These two categories bore on blacks performance more because they related mainly to the perceptions and attitudes concerned with community economics and language as they are developed, enhanced and utilized throughout the black community.

The Impact of Sexism on the Education of Black Females

The educational status of black females

Female students who belong to minority, racial and/or lower socioeconomic groups are experiencing inequitable educational opportunities in American classrooms. Current research is showing that although school systems have attempted to put into place a variety of school reform packages with the expectation of increasing academic accessibility for all students regardless of their race, socioeconomic status or gender, that in reality, the female students in general and minority students in particular, continue to receive diminutive academic services, and are consequently being denied equitable educational opportunities in our school system.

Due to the limited information available for many minority female racial groups, our sources will of necessity focus on the educational experiences of black females, for although the research is limited (Smith (1982), Gibbs (1985), Jones & Clark (1986) more studies have been done concerning this topic and black females than among other minority groups. We hope that this will only be one of the stepping stones toward investigating this phenomenon.

Many myths have developed concerning inequitable education experiences for caste-like minority students. Persons have used statistical evidence to show that minority female students are staying in school longer, thereby assuming that minority students are receiving equitable educational opportunities. Statistical information has been used to show that girls are outperforming boys in subjects that require verbal ability but that boys are outperforming girls in mathematics and related subjects. But the myth disregards recent contradictory evidence and reflects a distorted and over simplified version of the truth. In reality, females only tested higher in writing than the males. Another reality is that although females have made gains academically, males have made more. Yes, females do receive higher classrooms grades than males but males score higher than females on standardized test. It appears as if the data is complete and even somewhat contradictory. At least enough so that the relationship between students achievement and gender is far from being clear. It is evident, however, that when academic achievement does decline, it does so on the female side, and when achievement is experienced as increasing, it is so from the male students.

Women are experiencing inequitable educational opportunities in the classroom (Stockard, 1985). When

we look at the professional dialogue about educational reform about gender equity, we only receive the silent treatment. In the educational journals only one out of 183 articles discussed sex differential treatment in the classroom, in athletics, or in the curriculum. When articles were found, it was also noticed that by in large, women were only 21 percent of the authors, and made up only 24 percent of the notes in the bibliographies. As the articles attempted to enhance their statements made in the articles with pictures, more than half of the photographs or pictures were those of males, and maybe ten percent were those of female minorities; and the hand drawings depicted only three minorities in the entire group.

It has been difficult at best to find research studies that have focused on gender, race and socioeconomic status as it impinges upon academic attainment of students in minority groups. Many researches have focused on academic acquisitions, educational aspirations and motivations and educational and occupational attainments as separate entities. How these variables might interact to produce useable information on equitable education for minority females is unavailable.

Sex role stereotyping in classrooms

We do have a study of black eighth-graders in an inner city school that found no sex differences in mathematics and science achievement and yet the boys were more likely to choose a science-related occupation over a non-science related occupation. We also know that on cognitive and achievement measures during a meta-analysis of the characteristics and science performance of kindergartners through 12th-graders the effects attributable to race were almost three times as great as those attributable to gender. We understand that through the National Assessment of Educational Progress (NAEP) that socioeconomic factors, such as parent educational and occupational status, were related to students performances. We also can show through researchers (Centre (1980), Gibbs (1985), Smith, (1982), Stockard (1985) that black females as well as their male counterparts have high educational and career aspiration. Yet, black females are not succeeding in educational attainments or their follow through on their high career aspirations.

Our American society has designed two major gauges by which to measure the success or failure of ones school experiences. These measures are (1) educational attainment and (2) occupational attainment. Black females abutt the end of both of these gauges. Why?

Certainly it is not for a lack of academic ability. For it had been shown that black females academic abilities are not less than any other student. So, academic achievement then, must depend upon more than the demonstration of ones individual ability and/or aspiration. Stockard (1985) shows that the social environment in which this learning takes place must play an important role in the enhancement or diminishment of ones' behavior that leads to desired achievement.

Sex bias in classroom interactions

The school is a microcosm of our society. Therefore, the racial and sex-role stereotypes and biases prevalent in the society find their way into the schools and classrooms. The schools reflect the societal norms of choosing males over females (Shakeshaft (1986), Stockard (1985) whites over non-whites. Thusly, female students and particularly those of minority groups must in addition to being attentive to their studies must also adjust to teachers and peers. This is confirmed when one considers that minority women must live a bicultural existence.

A review of the literature indicates that the two major issues impacting the successful striving of educational attainment or lack thereof for black females would certainly be sexism and racism.

In the article "Sexism in the Classroom: From Grade School to Graduate School", Myra and David Sadker review the research they had conducted over a six year period concerning interactions in elementary and secondary schools as well as in institutions of higher learning. The conclusions of the articles stated that classrooms at all levels are characterized by a general environment of inequity and that bias in classroom interaction inhibits students achievements. The Sadkers' drew this conclusion upon the following:

1. Male students receive more attention from teachers and are given more time to talk in classrooms.
2. Educators are generally unaware of the presence of the impact of this bias.
3. Brief but focused training can reduce or eliminate sex bias from classroom interaction.
4. Increasing equity in classroom interaction increases the effectiveness of the teacher as well. Equity and effectiveness are not competing concerns; they are complementary.

In the study (Sadker (1984), Stockard (1985) the classrooms were characterized by a general atmosphere of inequity, where students in the same classroom, with the same teacher, studying the same material were

experiencing very different educational environments. It was observed that one-fourth of both elementary and secondary students didn't interact with the teacher at all during class time. Sixty-five percent of the students experienced one interaction per class session with the teacher. The other 10% of the students, experienced three times the interaction as the other students.

Secondly, it has been shown that the quality as well as the quantity of the classroom interaction also experienced inequitable distribution. Teacher interaction involving precise feedback in the form of praise, criticism and remediation were more likely to be directed to male students. However, teacher comments that simply affirmed students answers were more equably distributed between the sexes. These two issues alone helps to make one more aware of the inequitable educational offerings in the classroom.

The high school and beyond study of 1980's high school sophomores determined that the dropout rate for black females was 14.1%, for black males 20.3%, 13% for white males, and 11.5% for white females. Thirty percent of the dropout respondents cited poor grades as their reason for dropping out. Minority females specifically, cited pregnancy (29.2%) dislike of school (24.9%) and marriage (19.2%). Black males reasons were

poor grades (31.2%). The Census Bureau for 1981 showed black females, however, with a higher (8.7%) dropout rate than black males (7.2%). Urban areas often reported even higher dropout rates than these. In higher education, while white females enrollment had remained stable, black and other minority enrollments and degree attainment have shown very slight gains.

Sex bias in classroom resources

When one begins to make a careful examination of the curriculum materials that are used in the classroom, it becomes most understandable why girls would even consider dropping out of school. In textbooks, girls are nearly invisible, and when they do appear, they are bland stereotypical, unrealistic, fragmented personality female characters that the average female absolutely cannot identify with. Female students, through the curriculum, are socialized into believing that girls are non-persons and are therefore not worthy of being in history, or math, or science etc. If girls feel left out of curriculum materials, minority female students receive even less attention in those same materials. How then can we expect black female students to do their best in such a hostile environment?

Another myth often used is that black families encourage their daughter's academic achievement at the

expense of their son's. This is not supported by research. White families have traditionally held on to sex-role stereotypes regarding educational and occupational attainments to which black families have been ill-able to afford to set before their youngsters. In black families, there is a great deal of overlap between educational and occupational goals. Black children in general, are socialized to be independent and to achieve.

The Impact of Teacher Preception and Expectation on the Education of Black Females

The teacher's perception of students

Black females and males are expected to achieve in school. Yet, research has established that teacher expectation of students vary depending upon the students race and sex (Shakeshaft, 1986). If you are a white male, you are expected to know the right answer and give it. If you do not know it, the teacher gives much encouragement to facillitate finding the correct response. That's why there is such a high interaction rate between male students and teachers. It matters not whether the teacher is male or female, the interaction exchanges are the same. If you are a black male, the interchange rate with the teacher is also

high, yet not as high as that for a white male. But for males of any race, needs dominate in this social order. Black females have the least interaction exchange among all the groups. This difference in interaction between male and female and black and white can probably be attributed to teacher expectation.

Teacher's expect for white students to achieve because they believe that white students are inherently achievement oriented. Teachers believe that black students, on the other hand, only motivation for achievement comes from outside of themselves (parents) or they inherit it, but certainly not from intellectual competence of black students themselves. Female students receive less precise feedback than boys (Sadker and Sadker, 1985); they also, receive less praise for correct answers (Brophy and Good, 1970); and when that praise is received, it is done randomly, while boys are praised for all academic participation (Delefes and Jackson, 1972). However, black females are most often praised by teachers for their behavior than any other group of students. Black males receive the least praise, and the most criticism for their behavior. Black females receive the largest number of positive non-academic comments from teachers, while both black females and black male students are systematically denied the intellectual encouragement

given to white students. Do teachers encourage black females to achieve academically? We suspect not.

Student perceptions of differential teacher treatment

Not only do teachers not encourage academic competency among black females, but once perceived, Grant (1984) found out that black girls therefore, only approach teachers when it is absolutely necessary. Thereby, cutting down interaction between the two. And when they do, it is usually done in behalf of a school mate. Black males had the fewest contact of all. When teachers were asked their evaluation of students, they usually gave black girls and boys the lowest but same evaluation. Black females receive the very least reinforcement of all the groups of students. Although the biases are heavily against black students of both sexes, when in white classrooms, both groups of black students are able to make more cross-race friendship choices than white students. And surprisingly, (or maybe not) their choices are seldomly reciprocated. White males not only choose not to make friends, they are often noticed making racist remarks to black girls after a teacher had praised her for her academic performances. It appears as if the racist remarks came as a part of self-enhancement on the part of the white male, because the remarks were always derogatory toward the lower status of the black female.

Blacks of both sexes in american schools achieve at lower levels than white students, but research shows that it may have little to nothing to do with actual intellectual abilities of either group (Ogbu (1985), Smith (1982). If you are a black female, ones academic inequalities found in the classroom are surely tainted with inequalities due to sex bias found there as well.

It has also been shown that black children are more likely than white children to miss days in school because of disproportionate use of severe disciplinary practices. Woolridge and Richman (1985) found that when teachers punished black students, they punished black males and black females with similar, severe forms of discipline. However, sharp distinctions were made between white males and white females; white females received milder punishments than their male counterparts. High achievers are not punished as severely as low achievers for the same infraction (Stebbins, 1970). Emohovich (1983) revealed that there was different treatment for identical misbehavior of a white male and a black male. The white male behavior was interpreted as that of a bright bored child whom the teacher had failed while the black child's behavior was viewed as pathological and deviant. It is clear that disciplinary practices

damage black childrens educational progress and life chances.

It has been rationalized over and over again that the lack of success in academic achievement among black minority students can be related to blacks limited IQ and their low socio-economic opportunities. Researches are now daring to not only differ from this perspective, but they are designing and giving new meaning as to why black/minority students' academic achievement record had been less than desired.

Cultural deprivation, cultural differences, low socioeconomic status, cognitive and learning styles, socialization patterns of various ethnic groups, intelligence tests and cultural ecology have all been terms used to describe that hinderance. All of the above concepts can be summed up in one thought, however,- cultural synchronization.

The role of teacher education patterns

Black female and minority students are out of sync with many of their classroom teachers. Therefore, neither student nor teacher are able to take advantage of the educational learning opportunities available in the classroom. Teachers and administrators usually advert discussions that center around race and or race-related issues that include topics such as ethnicity, culture, prejudice, equality and/or social justice. This is more likely due because of educators uncomfortableness in discussing race because of their lack of knowledge of the cultural heritage of the students. Some will admit however, that their lack of voice comes out of fear and anxieties that open differences might incite racial discord or upset an already fragile unpredictable, racial harmony. So educators overtly pretend not to notice that students do indeed come from different ethnic groups, social classes and cultures.

The dally occurances of typical Americans reflect the norms for the majority culture. When a student is out of sync with a teacher, it is usually because he/she is out of sync with the expected majority norm. Byers & Byers (1972) gives us greater insight into this occurance. The study films the interaction between a white teacher and 2 black and 2 white girls in nursery

school. One of the white girls was able to get the teachers attention 8 out of 14 tries; while one of the black girls was only able to get the teachers eyes 4 out of 35 tries. The black girl had timed her glances so inappropriately and had made her moves at such inappropriate crucial times that she failed to achieve her desired goal. Whereas, the white girls' shared cultural and racial identity through cultural nuances, gestures and timing which produced academic success for her.

Cultural synchronizations as a concept is based on historical and anthropological research that suggest that Afro-Americans do indeed have a distinct culture founded upon african norms in language, behaviors and attitudes. M.J. Herskovits (1958) was able to identify many of these africans holdovers. He listed funeral practices, belief in magic and the occult and time (c.p. time) all as parts of these retentions. His work was very timely in as much as many scholars have chosen to believe that american blacks had no culture of their own and were found to be very good in assimilating themselves to the norms of american culture. In fact much of the controversy concerning the lack of achievement for black americans stems from this very concept-lack of cultural assimilation.

Distinct afro-american culture

Now, we know that the cognitive, learning, and motivational styles of ethnic minorities such as afro-americans, and mexicans americans are different from those fostered in the schools. These students therefore, achieve less well in school because the school culture favors the culture of white mainstream students and places students from other backgrounds and cultures at a serious disadvantage. The school environment consequently needs to be reformed substantially so that it will be sensitive to diverse learning, cognitive and motivational styles.

Scholars (Boykins, 1986; Hilliard, 1983; Pasteur & Toldson, 1982) have described the idiosyncratic nature of black cultural life. Boykin (1986) stated that blacks operate simultaneously in three realms - an african-based black culture, the mainstream eurocentric culture and the oppressed minority culture. The eurocentric culture is that which is farthest removed from authentic black culture. Boykin parallels the differences as:

African

European

spiritualism

materialism

harmony with nature

master over nature

organic metaphor

mechanistic

metaphors

expressive movement

impulse control

interconnectedness

separateness

affect

reason

event orientation

clock orientation

oral

print

expressive individualism

possessive

individualism

uniqueness valued

sameness valued

person to person

person to person

When there is cultural misunderstanding between teachers and students conflicts, distrust, hostility and possible school failure are in store for blacks. Blacks do have their own style. Hanna shares a poignant example:

..most black children carried themselves differently; more swagger, looseness, swing, hand rapping, "appropriate" dress, "right talk", and sparring characterized their activities.

But this black style of walking, glances, and dress of black children, have engendered fear,

apprehension and overreaction among many teachers, and school administrators. Blacks do engender their own communication system, (giving or getting skin, greetings, standing stances, walking stances,) often baffle school personnel, especially white teachers, who fail to understand black students' expressive language. Gilmore writes that:

Black children are known for their stylized sulking. Girls will frequently pose with their chins up, sulking, closing their eyelids for long periods and casting downward side glances...a girl also will rest her chin on her hand with her elbow supported by the desk...striking or getting into pose is usually performed with an abrupt movement or a verbal marker like "humpf"...[boys'] stylized sulking is usually characterized by head downward, arms crossed at the chest, legs spread wide, and desk pushed away.

Blacks do have their own style and black style of dressing has invoked many mandatory school dress codes. In black culture the manner of one's dress often depicts one's self worth. Blacks do have their own style and language of black english, (Baron, 1975; Dillard, 1977); Williamson, 1975). This is not to infer that all black people speak black english but it

is stated so that one is aware that there is a grammatical structural difference between black english and standard english and that many talented black youngsters are stigmatized by our lack of understanding into the merits of bi-dialectalism.

The issue of educational systems reflecting the values and practices of the larger society, has been discussed elsewhere in this paper. If we agree that the larger society is sexist, racist, and based on economic, cultural and historical inequalities, it is unrealistic to expect educational systems to be devoid of these inequalities. Educational systems are the formal institutionalized systematized vehicles through which the larger society socializes youngsters to the values held by the dominant group.

Black female career curriculums

Garibaldi (1986) states that:

...economic and social mobility for any ethnic group in the United States is largely conditioned upon the educational progress of its members.

Black and Hispanic children, especially females, comprise the "majority" in many of the metropolitan school systems in this country. If the schools are committed to "educating the masses, each system must

become responsible for teaching these youngsters about appropriate careers opportunities.

Historically, (Ible, 1986) black female educational curriculum consisted of curriculum which were morally and sexist laden. If education was to be appropriate, it had to be relevant to sex as well as race. So while black boys were encouraged to learn agricultural skills, girls learned domestic ones (cooking, sewing, housekeeping) at least up until the 1930's.

Black girls were taught morality because whites, especially white women, understand black women as totally sexually promiscuous and whites believed that black women's morality standards needed to be raised. They were taught housekeeping because of their perceived future roles as wives and mothers.

By the 1930's, the trades taught as curriculum, were becoming obsolete. Vocational and career planning for black females was then changed to nursing, cosmetology and printing. Nursing related to the emphasis in housekeeping and family care. Because of the cultural expectation for women to be beautiful, cosmetology was considered a natural field for women. Printing on the other hand, had begun as men's work and had gradually switched into the womens providence. But

the goals of education for women to be the adjuncts of men has continued to exist today.

The kinds of available career curriculum and role modeling for black women is close to non-existent. Elizabeth L. Ible (1986) has written a curriculum describing black womens' vocational development. It is not a curriculum guide for black female students. It is a historical account of the traditions of black females education trajetories.

The msot current curriculum for black children has been produced by the Portland Public Schools called African-American Baseline Essays (1987). These essays provide information about the history, culture, and contributions of African-Americans in the fields of math, science, social studies, music, art and language arts. Paired with this guide, the authors have designed a separate guide that hosts lesson plans for grades k-5 on african-americans. It's an excellent curriculum. However, this is a curriculum for elementary school age children and the only black female role models it uses is Rosa Parks.

The Michigan Department of Education for Sex Equity in January 1984, publighed a curriculum on black women called "Notable Black Women". This is a seventy-five page work that sought to fill a void in

the accounts of black female contribution that have helped to give shape to significant progress in american history.

This curriculum is divided into four sections. The first section shares a short two page biographical sketch of 24 black females. Section two consists of five games that help students review notable information about these women. The third section contains thought provoking activities revolving around challenging issues these women had to face. Lastly, section four gives to the teacher a list of ideas that one might use to make the curriculum interdisciplinarily.

The women used in this curriculum depict a cross-section of great black american women and the statements about each is extremely informative. The lessons are good. Although the unit does seek to unearth the peculiar contributions of black women to this society, as well as raise the self-esteem of women, it is extremely limited. Most of the activities consist of simply filling in the blanks, matching or completing simple puzzles.

It is true that there may be harboring within public school libraries, teachers desks, closeted basements, other guides that have yet to be discovered. If we are to move beyond public and private rhetoric of

enhancing the educational and job opportunities, then we must be diligent about providing a curriculum such as the one we shall propose in this study.

CHAPTER III

METHODOLOGY

Introduction

The research employed in this study is designed to offer a historical analysis of the lives of black female scientists and inventors. As such, this research seeks to be an extension of herstories that have been overlooked yet need to be intergrated into the larger story of "american" scientist and inventors.

Design

Since this study is historical, I utilized two major processes to complete this study. They were: (1) data collection, especially interviewing and (2) document analysis which will be explained in detail later.

Data collection

Interviewing

I collected data on 5 black female scientist and inventors. Two of the participants were women who are deceased, three were living. Two main methods for data collection were used. I used interviewing as the major

method for gathering data on the living participants. Each interview was recorded on tape with the permission of the interviewed. Notes were taken while conducting a telephone follow-up interview with Mildred Austin Smith. The interview was a way to allow the participants to describe in their own words, life experiences that led to their becoming inventors, the purpose of their inventions and their perceptions of the success of what they have accomplished.

The interviews were guided by an open-ended outline which allowed the researcher to probe issues more deeply in order to obtain more complete data.

Interviewing procedures

The interview was designed so that each respondent would be interviewed for about an hour using a preplanned interview guide (Appendix A). The guide being open-ended, the participants were encouraged to elaborate and to identify what they regarded as most important in their herstories. Each was allowed to discuss their experiences, express opinions, reminisce about significant events, describe experiences that have affected their subsequent lives, and so forth.

Prior to the interview, each respondent received a phone call from the interviewer. A mutual date, time and place for conducting the interview was established.

established. The respondents were then sent or given a cover letter (Appendix B), and a consent form (Appendix C) explaining the nature of the research.

However, while interviewing Mary Beatrice Kenner in Williamsburg, she invited the researcher to spend the night so talk went far into the night and most of the next day. All of this was faithfully recorded. There were actually two interviews conducted with Mrs. Joyner. The first one took place at her place of business, the Chicago Defender, the second one at her home one Saturday morning because she wanted the interviewer to see and experience her life. Mrs. Joyner knew that this could only be done in her home because this is where the majority of her memorabilia was to be found.

Mildred Smith was also interviewed once with two follow-ups. One of the follow-ups was done by telephone. Upon contacting Mildred Smith, it was decided that we should meet at her church since she was in the midst of preparing flowers for the women's day celebration soon to take place. At the conclusion of that interview, she invited the interviewer to her residence so that we might see her memorabilia. She also wanted to look for and give to the interviewer a copy of her game.

The second method for gathering data was the utilization of historical resources (discussed under document analysis). This method was utilized for obtaining data on Miriam Benjamin and Sarah Boone.

Document analysis

Any object or written record that one can imagine is potential historical data source. The researcher will use many sources to investigate, research and participate in the following.:

1. First I conducted several computer-search literature reviews, in order to obtain information from a variety of known sources.
2. Secondly, I researched numerous primary sources. In Boston, New Haven, Washington D.C., Charolette, North Carolina, New Bern, North Carolina, and Charleston, South Carolina. The 1800-1900 census reports were researched. I was seeking to find family information either on the women themselves or their parents, brother, sisters etc. It was from these records that I was able to obtain approximate birth dates, place of birth, number and names of siblings and addresses.

I searched black newspapers in particular from various cities, especially the cities that the women lived in. The newspaper articles were able to give me a general idea of what black people were doing and how they were living. The researcher was able to find articles which included either the women inventors themselves and/or news concerning family members. Several obituaries were found that gave dates of death and surviving family members.

In Chicago, Illinois and in New Haven, birth certificated and death certificated were ascertained for the Boone family. Nto being a member of that particular family, permission had to be obtained first from an appellate judge before any records could be released.

Marriage licenses were harder to come by. One would have to have the exact year of marriage and the family name of both parties in order to get accurate information. Cemetery records on the other hand were much more easily obtained. These records were extremely useful for they were usually family plots and gave birth and death dates for family members that one may not have already been aware of. this was very true for learning the names of new born babies that either died at birth or who had lived for only a few months.

City telephone books were one of the most useful records worked with. Here we were able to find out where people lived, what their occupations were, sometimes how many persons lived in the household and whether one was a renter, boarder or homeowner.

3. I researched the patent office in Washington four times. Each time I went I looked for different information. In the first two visits, I worked directly with the census bureau and what it had to offer. The third time, I researched the picture archives only. The last time I researched only the patent office and talked to persons who best understood the system.

Besides obtaining pictures of the patents themselves, I also looked for information that helped me to understand what happen to the patents of these women, whether they sold their patents to anyone and if so to whom. I found out that Miriam Benjamin's brother had actually assigned his patent over to her. That meant that she had sole control over the patent and in the event that it might be sold, she alone, would reap the full benefits of the sale. Marjorie Joyner assigned her invention to the Madame Walker School of Beauty Culture. The machine was never made so the school never made any money from of it.

4. I researched the historical archives in Washington D.C., New Haven, Conn. and Chicago, Illinois. I had been able to trace the addresses of where the women lived and was checking the archives to see if they might have pictures of the houses or the streets that they lived on so that we might get a historical perspective of the community. For the houses that continued to stand, I took pictures. Whether I got pictures from the historical societies or took them myself, I have added these to the biographical section with the appropriate women.

5. I Searched minority magazines in selected libraries for use as both primary and secondary sources. The magazines that I researched were: Afro-American, D.C.; The Guardian (a national magazine); Crises Magazine (NAACP); and The Colored American Magazine. The major libraries and museums that I used were: Boston Public Library, Chicago Public Library, Radcliffe College (Schlesinger Library), The Anacostia Museum, D.C., and The Smithsonian Museum (D.C.).

Bias

The researcher views this work as an important task because for too often black female students as well as the black community at large are through

public school systems introduced to a world in which the vast majority of the role models are white males, sometimes black males or white women but never black female scientists or inventors. Black female students deserve more. They have a right to know that black women have certainly played a decisive role in Americas creative and inventive world.

Participants

The participants were selected based on two criteria. First, they had to be a black female inventor. The names of the inventors were initially be selected from a list of black 18th century black inventors. There are only three black females on this list. The researcher has selected two of them to use in this study. Since children are so often given historical persons to study who are dead, the researcher will seek to interview at least 3 living black females inventors. Secondly, these womn were selected based on their availability and on the ease of information obtainable for and from them.

Analysis and evaluation of data

Historical sources may refer to events that did occur or did not occur or that occurred differently from the description given by a witness. The body of sources both primary and secondary must be questioned for genuineness and credibility. Yet one can never be completely sure of the accuracy of historical sources.

This research is left then to generate and test hypotheses that will question each of the sources critically as well as to locate other sources that will confirm the validity of the primary sources. The researcher will attempt to employ "the sociological imagination", which according to its inventor, C. Wright Mills, "enables its possessor to understand the larger historical scene in terms of its meaning for the inner life and the external lives and careers of the said individuals.

As external criticism is used, the researcher will attempt to raise questions about its genuineness, its originality, who wrote it? when? where? and questions that raise other related conditions.

Internal criticism will lead the researcher to consider and evaluate the accuracy and worth of what has been uncovered in each of the historical sources.

Once the sources are analysed and properly categorized, biographical profiles of each personality shall be recreated for inclusion into a interdisciplinary curriculum on black female scientist and inventors.

CHAPTER IV

BIOGRAPHIES

Introduction

In this chapter you will meet and hear the stories of five black female inventors, Miriam Benjamin (figure 1), Sarah Boone (figure 5), Majorie Joyner (figure 9), Beatrice Mary Kenner (figure 11) and Mildred Smith (figure 15). This list is by no means an exhaustive list of the inventive spirit of black women. However, all of these women exemplify the spirit of the lives of black women in general and model, even today, the energy and wherewithall that young black women of modernity need in order to be successful in today's world.

Preface

Miriam Benjamin is the second known woman to have been granted a United States patent. Of course we realize that other black women have had many ideas for inventions but were not able to see their invention patented to fruition. Miriam was born in South Carolina but moved as a small child to Boston, Massachusetts where she grew up. Her family became a

very influential family in Boston. Miriam herself seemed to have preferred living in Washington D.C. for her story seems to end in that great city. In actuality very little is really known about this woman. Most of what is known was found in newspaper clippings and census information. I found her name on a list of 19th century inventors.

I'LL TELL THEM OF



Miriam Benjamin

Figure 1 Miriam Benjamin

Miriam Benjamin

The time had finally arrived. General William T. Sherman knew that the end was near. If only he could cut through the south from Atlanta and march toward the sea with his ragged, tired and torn soldiers. If only he could cut off all supplies to the confederate armies, he knew he could win. Finally, on April 9, 1865 at the Appomattox court house, Robert E. Lee, who then commanded the confederate army, surrendered himself, his army, and the war to General Ulysses S. Grant, of the Union army. This was the official last act of the war between the states.

Miriam Eliza Benjamin, born in 1861 was only four years old at the ending of the civil war. Much too young to really understand the significant of the events that had just occurred. But children always know when something good is in the air. Miriam knew. She knew that Ma, was unusually happy. Often times ma went about her daily household chores with little to no expression. But on this day Eliza, her mother, was humming and moving at a rapid pace. Uncle Joe, the name given to all old black men on the plantation, kept coming to the back door of the "big house" whispering the "good news" to Eliza. Freedom was near, the field

slaves could feel it. Freedom was in the air, even the housekeepers, like Eliza. Miriam's mother were singing as they worked. As Eliza cleared the dishes from the family breakfast nook, she sung....

Miriam knew that something grand was about to happen. Miriam has always been in the house helping her mother do the housework. Eliza, wasn't a slave on the Benjamin plantation, like the other Blacks that work and lived there. She did live with the Benjamins', but it was common for parents like hers, Mr. and Mrs John Claussen, to hire their children out in order to bring more money into the Clausen household. Mrs. Claussen did house work while her husband was a keeper of the jail house. Neither one of these jobs rewarded the family with much money, but they were free Blacks and were able to make a decent living.

Master Benjamin liked Eliza, and although she wasn't married and had had Miriam, everyone knew why Master Benjamin always had a sugar cube and a smile for Miriam. Nobody talked about it, but everyone in the quarters knew that Eliza was very special to Master Benjamin. That's why she lived in the big house. The slaves understood that Miriam was really an offspring of Master, she looked just like him, didn't she. Nobody could tell the difference between her and his

other children. But nobody whispered a word. It was one of those unspoken realities of life.

It was understood that most mulattoes like Eliza and her children would never work in the fields. Slaves masters either found menial jobs for them around the house and sometimes they even gave them their freedom papers. By 1850 95.29% of all mulattoes in South Carolina were free, leaving only 3.36 slave. Yet only 4.48% of the total South Carolinian population were mulattoes.

Eliza could read. After all she had been one of the lucky blacks of Charleston, South Carolina. Her parents were able to buy her books and send her to one of the only two negro schools in town. There was Morris Shaw Memorial Colored School on the southeast corner of Morris Street and then there was the colored catholic school a few blocks away.

Eliza continued to work for the Benjamin family long after the Emancipation Proclamation had been declared. When Miriam was only 4, Lottie was born. then Lyde and finally Edgar. Master Benjamin died when Miriam was about 10 years old. Oh boy, did that elicit a lot of ruckus in the Benjamin household. For Master Benjamin had left Eliza well off through his will and his family really didn't appreciate that. The Benjamin family was one of Charleston oldest families. They had

begun their journey in the new world when Judah Benjamin arrived in the Virgin Island in 1811. His grandson Judah Phillip born in St. Croix, August 6, 1811, eventually moved to the United States, where he became the secretary of the Southern Confederacy and was also known as a leading authority in sales law.

Having inherited a substantial amount of money, Eliza's parents advised Eliza to move out of town, where she could continue to raise her children without the ridicule and wrath of the Benjamin family. So Eliza, decided that Boston should be the place. After all, was not Boston the new mecca for free blacks.

Miriam's mother was becoming extremely anxious. For although the 14th amendment had been passed and ratified by most southern states, it did not stop the retaliatory campaign of intimidation by the notorious "Ku Klux Klan.

So northbound it was. Northbound to Boston, where a new era was beginning to overshadow the old. Boston, where blacks had been free since the days of the nation's birth. Boston where blacks possessed the power of the ballot and stood on the same political plane as other members of the community.

Boston was never to have experienced the southern blacks 'en masse' as it were to do during the next two decades. The new order was certainly here to stay. It

blacks were to ever really be free; if blacks were to ever come out of the servitude positions that their past had imposed, living in Boston surely would be the place of transformation.

Eliza with her four children said good-bye to her parents and headed north. She had only gotten to Virginia when the next to the youngest child took sick and died. Eliza stayed in Virginia for a while, yet. Boston kept calling. When the Benjamin family finally arrived, it was a cold and blustry day. The children weren't use to such weather and Edgar, the youngest began to cry. Miriam tried to take charge, just like she always did when her mother had other business to take care of. After all she was 11 years old now, and that made her into a pretty big girl. She picked Edgar up and wrapped him in her thin coat the best she could while her mother asked persons at the railroad station about housing.

You know its a terrible thing to move to a new city and leave all your family and friends behind. It's even harder, when you don't know anyone in your new town. Miriam's mother had to depend upon the goodness of the people in this new city for all of her needs.

Finally, a newspaper boy standing at the station came and ask if the children had any where to live.

Miriam was skeptical about talking to him at first because he was a stranger. But there was something different about this boy. She couldn't quite put her finger on it. Maybe it was ok to trust him. "We don't have a place to stay, Miriam ventured to tell the lad". "Well, come with me, he replied, I'll take you to a friends' house who can help". "We will have to wait until my mother comes back. She's right over there talking". Miriam was pointing to a woman who was quite stylishly dressed with the prettiest bonnet on that this lad had ever seen.

"Ma, ma, called Miriam, come quickly". Eliza's heart began thumping so fast that you would have thought that a legion of african tribesmen were using her breast as a drum head. She quickly looked around, her eyes were flashing quickly over the children to see who had been hurt. No one looked as if they had been harm. The drumming stopped, as quickly as it had begun.

The Benjamin family, like so many other black immigrants, promptly settled in the West End of Boston on Beacon Hill. Miriam and Lottie were enrolled into the elementary school, while Lyde (4 years old) and Edgar (2) were kept home with Eliza their mother.

It didn't take Miriam's mother long to find suitable housing. For six years the family lived at 15

Grove Street. Around 1878 or '79 the family moved to 10 Dover Street in the South End. Near the end of the 1870 and the beginning of the 1880's, the upper middle class blacks who could afford it, moved into the south end of the city and were usually the only blacks on the block. When Miriam's mother, Eliza, first saw that little house on Dover she believed that it had been sitting there just waiting for her to occupy it. Eliza did buy that house, but it wasn't easy. If you were a mulatto, it was certainly easier for you to move around the city and take advantage of the city's resources, than dark-skinned blacks. You were more readily accepted into white churches, you were allowed to join white literary reading societies and you could join white sororities and fraternities.

Bostonians understood that you were black, but the lighter skinned you were the more intelligent you were thought to be and the more prestige you held even in the black community. However, Miriam's mother still used a white friend to strike a deal and purchase the house.

Miriam, and her brothers and sister completed their early years by living in the South End. By 1882. Miriam had completed high school and the State Normal School- now known as the University of Massachusetts. All the Benjamin children finished school. That was

unusual, for most black children during this time period. By the 1870's, '80's and '90's blacks had certainly fought the battle of public school education. It was no longer necessary to pay 12 1/2 cents a week per child, for schooling. But times were difficult and many a black child could tell the story of how they had to quite school, and go to work to help the family out.

Miriam became a teacher. We don't know what inspired her to become a teacher. Certainly she had never sat in a classroom with a black teacher. Even when she attended the one room school house of Morris Street, that her mother had also attended, the teachers were white. As far as black people today know the first black female teacher hired by the Boston Public school was believed to have been Harriet L. Smith who taught at the Sharp School on Beacon Hill from 1890 to 1917.

Miriam didn't secure a job as a teacher in Boston. Perhaps Boston just wasn't ready for too many black teachers yet. At the end of the summer of 1882, Miriam journeyed to Charleston, to visit her grandmother. There she stay and taught school for about 3 years. It was not uncommon during those days for educated young women of color to return to their birth places to open schools or act as teachers in school already established. This practice was almost expected. In

the summer of 1885, Lottie, having completed school, spent the summer visiting Miriam and her grandmother. In September, after the summer had waxed and waned, Lottie decided to return home. Miriam returned to Boston also, where she secured a small apartment at 27 Warwick St. in the south end just blocks from her mothers house.

By 1888, Miriam had moved again. She took a steamer to New York City and a train to Washington D.C. She settled in the northwest section of D.C. and began a career of teaching. Miriam invented the signal and gong chair (fig. 2) while residing in Washington.

My invention, she says, relates to certain new and useful improvements in gong and signal chairs to be used in dining rooms, in hotels, restaurants, steamboats, railroad trains, theaters, the hall of congress of the United States,, the halls of the legislatures of the various states for the use of all deliberative bodies, and for the use of invalids in hospitals. The purpose of my invention was to reduced the expenses of hotels by decreasing the number of waiters and attendants, and to add to the convenience of the guests.

On my free time, I used to attend congressional meeting. It all seemed so complicated to me at first. It was hard for me to determine what was going on. For

while one senator was speaking to the body, other congressmen were clapping their hands, trying to get the attention of their pages. If the services of the pages were not forthcoming, the senators was subject to call aloud to obtain the services of a page. My signal and gong chair would be just the answer to this most unseemly problem.

With the use of my invention, a senator would only have to press upon a button which would activate a device so that a red signal would be raised and a small gong would sound, thereby alerting the page of services desired. I imagine that my invention could be used in hotels as well. Then one would only need to hire one waiter for every 12 or 15 guests instead of the usual 3 or 4. This I hope to sell to hotels as well, for it would surely cut down on hotel expenses.

There are no known records that prove that this invention was actually used in the hall of congress or even hotels. However it is certainly the fore runner for the paging system used in both the hall of congress and the hall of representatives.

Mirlams' brothers Edgar and Lyde and her sister Lottie, were just as creative as she. By the turn of the century, at the age of twenty-one, Lyde had received a patent for his own invention. He had only been married a year to Harriet, his beloved wife from

Nova Scotia. She was expecting her first, very soon, in February, to be exact. When one day Lyde was trying to give Harriet a helping hand with the house work because she was in the family way. It just seem like the more he would sweep their house at 121 School St, the more the dust would just roll away from him as if they were playing hide and seek with the broom. All this nonsense, just trying to get a little dust up gave Lyde the brilliant idea for his broom moistener and bridle.

In case you don't know, a broom moistener is a device used to keep your broom moist while sweeping, yet without being so wet as to drip water all over the floor. The dampness of the broom was to prevent the dust from rising and playing tag with the broom. The bridle was one way of binding the straw of the broom together in such a way that the straw wouldn't spread and thereby the broom could last longer and do a better job.

Lyde Benjamin didn't spend all his time inventing. He was actually a lawyer who eventually specialized in real estate. It was probably through his efforts that the Benjamins' became one of the first black families to move in to the beautiful Jamaica Plain section of Boston. Lyde , of course, lived on school street, and

his mother Eliza, and youngest brother Edgar (fig. 4) lived on Sheridan Road.

Not much is known about Lottie. We know that she finished school and oftentimes traveled to Charleston to visit her grandmother and friends. Lottie was a socialite. As soon as she was old enough to become a part of the black Bostonian female social groups, she did. Why, when Lottie was only 17 years old, she was well known and had been well received by the J.V.C.'s (a club composed of young ladies of beauty and intelligence). As a matter of fact, this club gave her such a fond farewell after graduation, that you would have thought that she was the first lady of the country. Everyone that was someone was there. Oh, the newspapers were thrilled to fill in the titillating details of such a gala affair, for those who were not so fortunate to be in attendance.

Lottie and her husband Walter W. Sampson, were always in the newspaper. In August, 1904 she and Walter along with Lyde and his wife gave the affair of the year in Arlington. Can you imagine giving a party just because your visiting friends were about to take leave? The Guardian newspaper gave that event two columns. I can certainly understand why. Once again, all the elitist black folks in town were in attendance. They didn't even mind riding the trolley from Boston to

Arlington to get there. Monroe Trotter, publisher of the Guardian and the Grimke sisters were also there. But you can read. Find the August 23, 1904 edition of the Guardian paper and find out for yourself.

Lastly, we have Edgar. Edgar was the pride and joy of his family and of the black community. He was the epitome of black existence. In 1894 he completed Boston University law school and became a renown criminal and civil lawyer. Actually most of his clients were white. In 1927 Edgar later established the Resthaven Nursing facility for sick and senior citizens in Roxbury. This home now (1992) has a new edifice and continues to exist right even now as a 260 bed home.

It wasn't always that way for Edgar. When he first completed law school, his desire was to head west. Instead he tried to secure a job with a law firm in Boston, but prejudice being the way it was, no one would hire him. So with a borrowed \$20, and with an old desk and a chair, he opened his own law firm on School street, downtown Boston. He died in 1974, leaving quite an inheritance to his son and daughter.

We don't know what became of Miriam. Some people believe that she taught school in Washington D.C. until she retired. Some seem to believe that she got married and her prince charming carried her off to a life of

fun and adventure. We don't know what happen to her. We don't know if she ever got married or had kids; perhaps she moved back and finished out her days in Boston. No one has discovered her death date yet. When Lyde died in 1916, she would have been 55 years old and she was still living. Some day, one of you researchers will continue the legacy of her life and uncover the answers that are still hidden.

(No Model.)

M. E. BENJAMIN.

GONG AND SIGNAL CHAIR FOR HOTELS, &c.

No. 386,289.

Patented July 17, 1888.

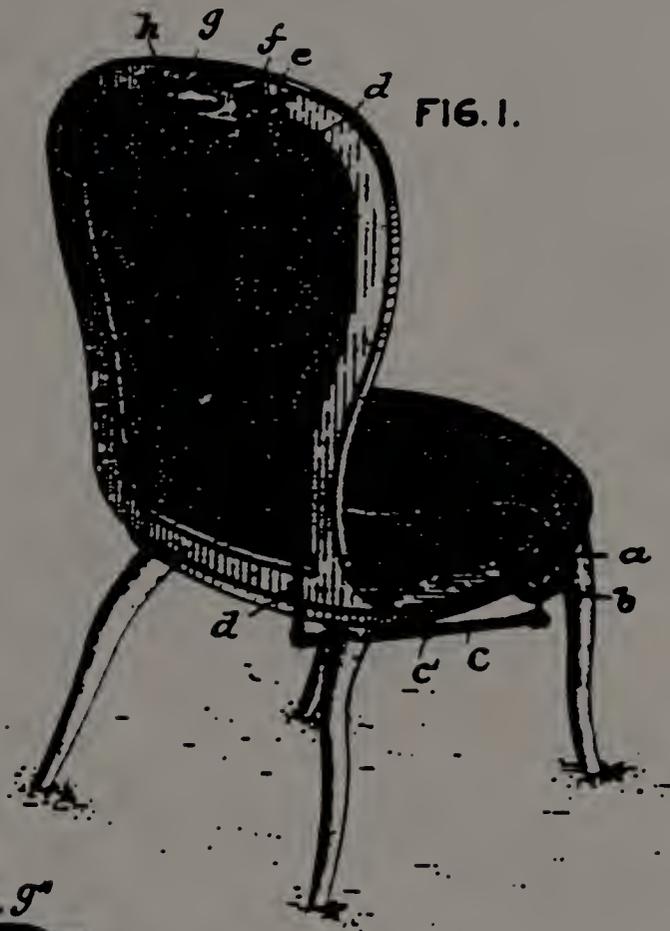


FIG. 1.

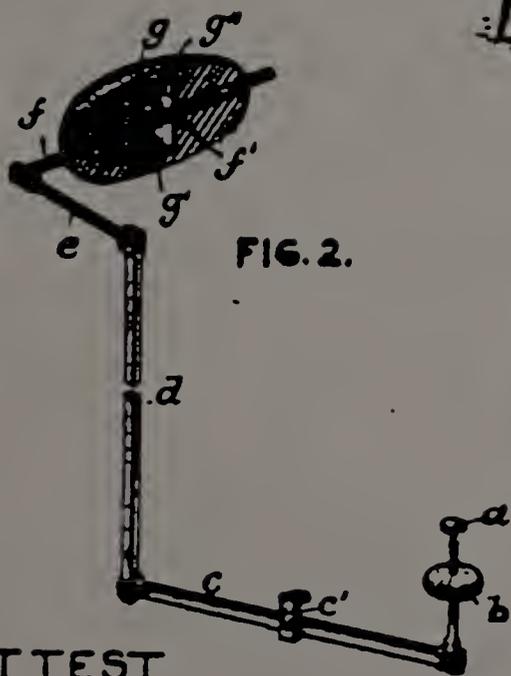


FIG. 2.

FIG. 3.



ATTEST.
J. Henry Kaiser.
J. C. Wood

INVENTOR.
Miriam E. Benjamin

Figure 2 Gong and signal chair

(No Model.)

L. W. BENJAMIN.
BROOM MOISTENER AND BRIDLE.

No. 497,747.

Patented May 10, 1893.

FIG. 1.



FIG. 2.

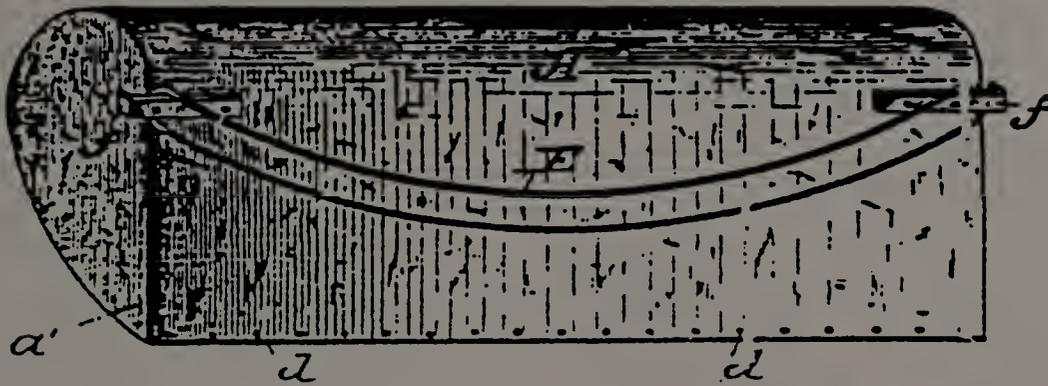


FIG. 3.

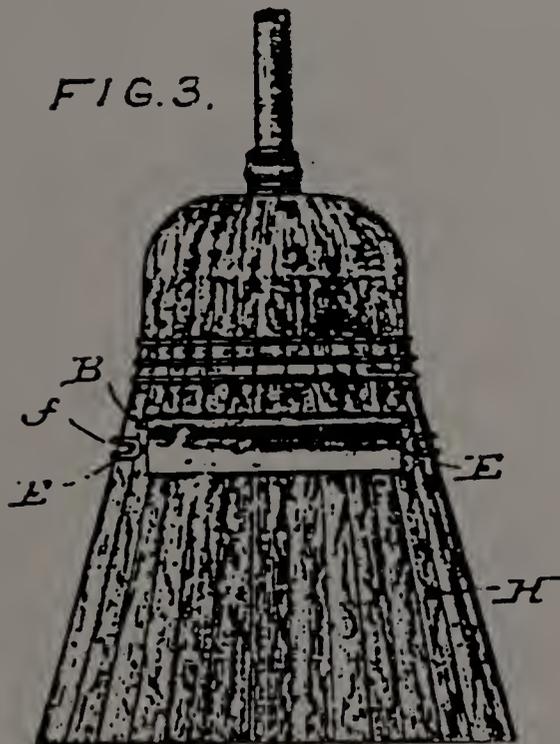
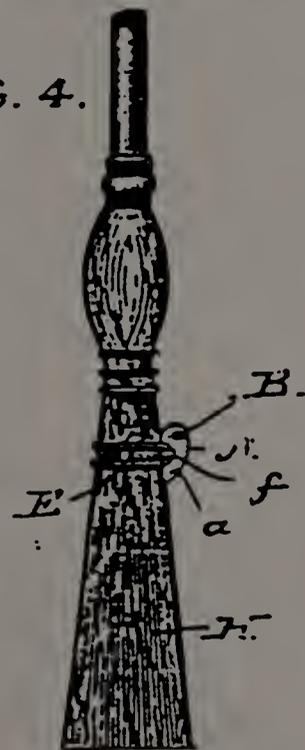


FIG. 4.



ATTEST.

J. Henry Kaiser
Joseph C. Stack

INVENTOR.

Lyde W. Benjamin,
By *M. C. Benjamin*
att.

Figure 3 Broom Moistener and Bridle



Telephones, Boston 415-2

EDGAR P. BENJAMIN

Attorney and Counsellor-at-Law

34 SCHOOL STREET,

Room 16

BOSTON, MASS.

Figure 4 Edgar P. Benjamin

Sarah Marshall Boone is the second black woman to have receive a patent for her invention in the United States. She was born in New Bern North Carolina in the early 1900's. In those days you married early and Sarah was no exception. She gave birth to many children but made her way into this paper through her invention of an ironing board. Once again it was difficult at best to collect information on this inventor for it was historically not in vogue to keep track of the lives of women in general and black women in particular. Most information recorded is about the men in their lives and the women only incidentally.

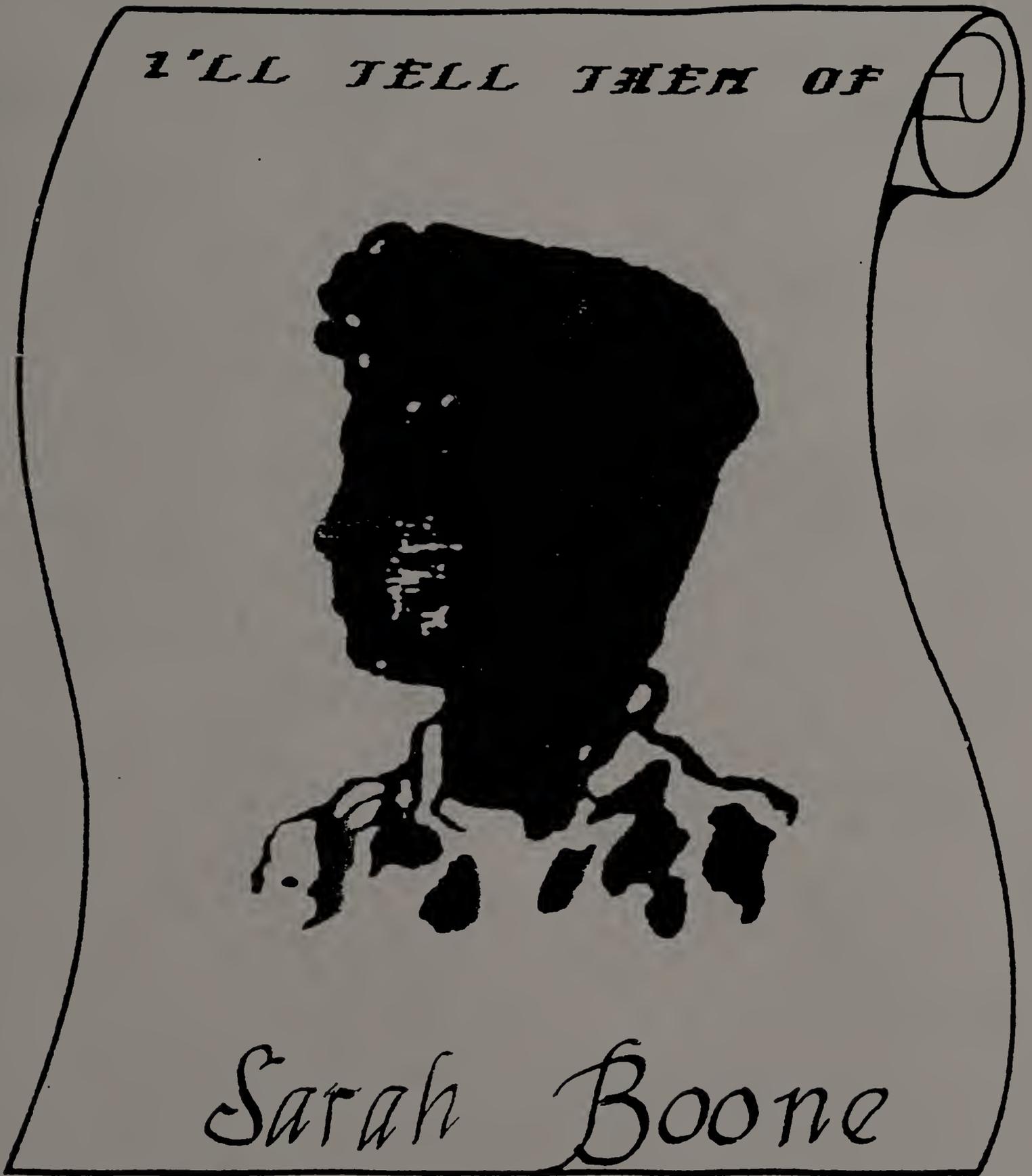


Figure 5 Sarah Boone

Sarah Boone

Moving is always such a traumatic experience. And so it was as we packed our few belongings, our four surviving children and headed north. James actually went north first. He wanted to find us a home and himself a job before he brought all of us up to live. James was gone off-and-on for several years before he decided that we could come. People always want to know how come black women can make it without their husbands and while trying to rear children. Well, I'll tell you. We do it because its called survival. Slavery days taught us well how to survive.

I was only in my twenties when James left. But twenty with kids is old enough to figure out how to do it. My mother and my grandmother were there to help. We were free blacks and most often being free was even harder than being in slavery. I took in washing for a while when James was away. I'd sometimes walk 5 miles take the clothes, pound them in the wash tub until they were clean then I'd walk another 5 miles to return the clothes and 5 more miles to get back home. Life was difficult, but I wouldn't take nothing for my freedom.

When we finally arrived in New Haven, we found housing in the city to be tough especially if you were

black. Most blacks who moved to New Haven had to first live in a section of the city called "New Liberia. New Liberia was a vice-center until the late 1986's when James Brewster, a philanthropist, brought the entire area, tore down the shanties and proceeded to get rid of the vice.

When James and I moved to New Haven, blacks were considered to be a real menace to the city. Housing was scarce and we blacks were not wanted as tenants. Even moral families were forced to find shelter in disreputable neighborhoods and we paid extremely high prices for the poor quarters that we lived in. In a building right next door to us one family lived in a half-underground room with only a fireplace to heat it. In their room was a sweating, leaking tone wall, and a ceiling that was so worn that the dirt from the floor above kept seeping through.

Across the street was another building which was called home for 12 families not including boarders or lodgers, there were seventy people in all. Each family had its own room which was only 12 by 14 feet. Most of the housing was understood as filthy and a few were known to house horses in the cellar and pigs in the attic.

As we hunted for housing, we were soon to discover that all the black regions were for one reason totally

unsatisfactory for habitation. For example, "The Hill" was an infertile rise beyond a partly drained salt marsh, the tanyards located there kept the air heavy and very difficult to breath. In the black section call "Middletown", the soil was so poor that one couldn't even raise a garden. The houses were so poorly constructed that you would burn up in the summer and freeze in the winter. And some of the houses weren't even 'real' houses. They were converted 'outhouses' which had been too worn for city use. dragged to the black section of town and set up as cheap rentals.

We finally chose a house on Webster Street which was a little beyond Poverty Square and the city graveyard. At least here we were able to have decent housing and a small garden. In our back yard, we kept a few pigs and we had our own well and an indoor pump and an iron sink in the kitchen. This was considered idea for its day because most people didn't have those things.

Many of our friends still lived in the city and some died at an awfully early age. But when sanitary conditions are bad, what else do you expect. In the 1860's there were almost no sewers systems. The soil was tainted, the streets were filled with roving horses, pigs and cattle. There was a public water

supply that was dispersed by a private company, but the majority of our friends didn't have access to it. They just used spring wells in polluted soil. Dysentery, typhoid and malaria were common diseases with children being the most frequent victims. Even though we lived good, we certainly understood the loss felt by many. We had lost three of our own children while yet in North Carolina before they had reached their majority.

I had given birth to eight children, William, John, Mary E. and James Jr. were all born in North Carolina and lived beyond infancy. Henrietta, our youngest was born "up north" in New Haven. She lived a long and prosperous life. People got married early during my time. I was born to James Marshall and Sarah Morgan Marshall on April 2, 1839 in New Bern, North Carolina. I met and married James Boone when I was 13 years old. Our oldest son William was born when I was but a babe myself at the age of 14.

We were free blacks, but James had worked in New Bern with his father and had learned the trade of masonry. I was working for a while on a tobacco plantation, going to school when I could which was not that often. In our town all the free blacks knew each other, went to church together and shared in as many ways as we could.

I remember the folks gathering and always talking about going north. As soon as they had enough money to move their families. James and I talked about it after we married. It just seemed that during the early and late 1800's all the blacks from New Bern who could moved to New Haven. As a matters fact the 1850 census shows that more than half of us black immigrants to New Haven were from New Bern.

We were young, ambitious and daring then. just looking for a better life for ourselves and our children. We had already lost several to the harshness of southern life and we didn't want to chance loosing more.

By 1868 when our youngest child, Heneritta was 5 years old, we were able to move to the then newly created section of the city. We purchased a home at 30 Winter Street. I lived in this house, finished raising the children and even died right here in my own house.

Life was good to us. James had his own business which William helped him to work. He was a mason and masons were in high demand with all the building that was going on in town. We were able to live quite well on James wages. We didn't have to send our youngsters to the public schools but were able to pay the tuition at the black private one. I didn't work. I mean I

didn't work outside of my house. As a matter of fact, I wasn't allow to work.

By 1870, you see our net family worth was at least \$4,000. Now that may not seem like a lot of money to you but in 1870 it was enough money to place us in high society. By the standards of my day societal dictates stressed that women considered well-off definitely didn't work. However, when necessary, for one reason or another, if you needed to earn extra money to pay for children's tuition, buy some fabulous piece of furniture, or wanted to take an expensive vacation, you were allowed to become a dressmaker, or "take in" laundry, but you never, ever participated in work outside of your house.

James, my husband, died in 1876. I was only 37 years old then. I realized that although I had never worked that I had to find a means of supporting myself and Henrietta. She was the only child left at home. Our home was a large one. I decided to take in boarders for this would be an honorable way to earn money. That worked for a while because we still had money left over from James' wages. I was soon to discover that taking in boarders would not allow us to continue living in the style in which we were accustomed. I knew how to sew. It was unheard of for women, black women in particular, to buy clothing. We

made all our clothes, even our underwear. In talking to the women in my women's club, they came up with the most perfect idea. Why not do what I do best. Sew. So I became a dressmaker.

That's where my invention came in. I had no trouble getting work. White women KNOW they can spend some money on clothes. The people I sewed for, traveled quite a bit to places like Paris and England and they used to bring back pictures of all the latest fashions. I enjoyed designing the latest styles but I was having a lot of difficulty trying to press the inside and outside seams of the sleeves and waists of my ladies and men's garments. The most difficult of my dressmaking tasks was to press the curves in the waist seams to give that finished and professional look to my work. I just couldn't do it with what I had to work with.

But God is so good. I dreamed one night that I had devised this new contraption that would be small enough so that I could press cuffs, collars and the bands of sleeves, but maneuverable enough that I could get the 'look' I wanted on my waist seams. I got up that next morning, I'll never forget the day. Anyway, I got up, very excited wanting to make my dream a reality. We didn't have any wood around our house, so I went around the neighborhood soliciting small pieces

where I could. When I thought I had enough, I returned home. I labored over my idea all that day but I never really made what I wanted. I worked on it the next day and the next and the next. Finally, I discovered what was wrong. I needed to taper one end of my invention so I could place even the smallest of articles on it to be pressed. I was 53 years old when I finally got my patent, but I was happy. And even more importantly, this new fangled ironing board worked (fig. 6). This was in 1892.

I was able to support Henrietta (fig. 7) and myself so well with boarders and by sewing that my daughter picked up my trade and participated in it all the days of her life.

God was important to me. God gave us strength to bear the pain of losing so many of our off-springs to death at such early ages. God kept us as we made our trek from upper state North Carolina and finally to New Haven. God protected me and mine when James passed on and continued to watch over me. That's why church was always so important to me. All my life, I've learned to acknowledge a higher power.

We started off as member of Temple Street Church. Temple Street church was begun in 1820 by Simeon Jocelyn, a white middleclass member of the Center Congregational Church who thought that black members

were being ill treated in the white congregation. By 1824, in spite of white opposition, the small group obtained a meeting house on Temple Street and formed the "African Ecclesiastical Society". By August 25, 1829, the congregational church allowed 4 men and seventeen women to satisfactorily pass an examination, made a profession of faith and then became members of the general Congregational church.

Of all the black churches in the area, Temple Street was the wealthiest and largest institution. Almost all of the leading black families in New Haven joined, including my family. Ours was an exclusive society. In order to be a member each person /or family must exhibit certain visible signs of sobriety, education and family morality. These restrictions only helped our church family to grow more. As newcomers moved into town, the dictates of our church helped to acclimate the newcomers as they aspired to become members. Likewise, our church exemplify the germinate social forces among blacks especially during the forties and fifties. Temple Street was always associated with the militant abolitionism and we always did lean toward race consciousness and black independence.

In those days we actually had a seven-day-a-week program, with the "Beman Benevolent Association and the

library club, Circles of Improvement and the Temperance Societies. And that didn't include the forums we held on all the radical subjects of the day. We also were the leading group in the city that held protest and agitation meetings against slavery.

Some of my happiest days were watching Henrietta participate, grow and enjoy herself in the church. We were known for our weekend extravaganzas. Many which were covered in the city newspaper.

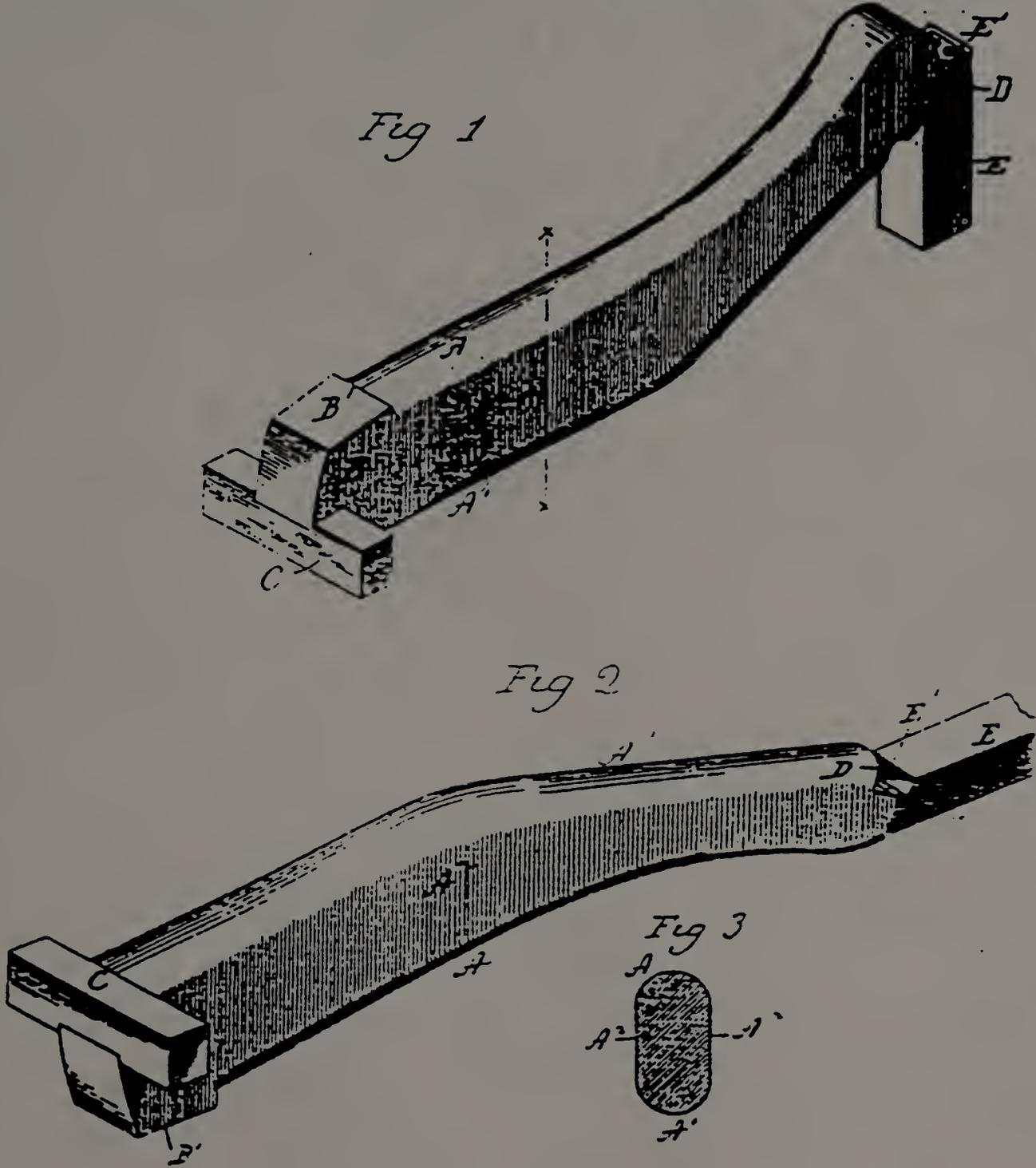
Not much more is known about Sarah Boone. She lived on Winter Street until the age of 65 where she lost her battle with Brights disease on October 29, 1904 (fig. 8). Sarah kids were scattered all over New England beginning with William living in Bridgeport and a granddaughter Marlon living in Worcester, Ma. Henrietta never married but continued to live out her days on Winter Street just like her mother until the city through Urban Renewal in 1914 decided to tear down all the old houses in that community and build new brick town houses. However, even in the 1990's this continues to be a mixed and affluent neighborhood.

(Model.)

S. BOONE.
IRONING BOARD.

No. 473,653.

Patented Apr. 26, 1892.



Witnesses
J. H. Shumway
Richard D. Healy

Sarah Boone
Inventor
G. Atty
Earle Seymour

Figure 6 Ironing Board

CONNECTICUT STATE DEPARTMENT OF HEALTH
Public Health Statistics Section—Hartford, Connecticut, U. S. A.

Certified Copy of Birth Record

1. Name of Child Female - Boon
(First) (Middle) (Last)

2. Place of Birth New Haven, Connecticut
Street, locality or hospital _____

3. Sex Female 4. Date of Birth February 23, 1863

5. Full Name of Father James Boon

6. Age of Father 38 years. 7. Color of Father Colored

8. Residence of Father: Town New Haven State or Country Connecticut
Street address _____

9. Birthplace of Father: Town (not stated) State or Country _____

10. Occupation of Father Mason

11. Maiden Name of Mother Sarah

12. Age of Mother 32 years. 13. Color of Mother Colored

14. Residence of Mother: Town New Haven State or Country Connecticut

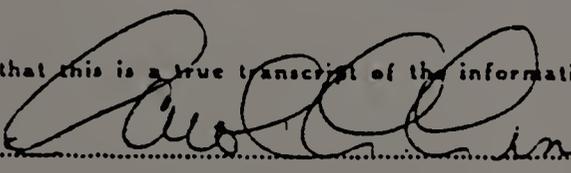
15. Birthplace of Mother: Town (not stated) State or Country _____

16. Number of Child of Mother _____ Number Living _____

17. Attending Physician, Midwife or Other Person J.H. Robinson, M.D.

18. Date received for record February 1863

I certify that this is a true transcript of the information on the birth record as recorded in this office.

Attest:  ass't Registrar of Vital Statistics

Dated August 31, 1989 Town of NEW HAVEN

Form V.S. 137

Figure 7 Birth Certificate

225

STATE OF CONNECTICUT

Medical Certificate of Death In Town of New Haven

To be filled by Physician, if any; otherwise by Health Officer or Medical Examiner

I certify that I attended Mrs Sarah Boone in her last illness, and to the best of my knowledge and belief the cause of her death was as hereinafter written:

Primary or chief cause, Bright's Disease
Secondary or contributing, Dropsy Abdominal and Cardiac
See opposite side.

Duration
any
140

Remarks, _____

Witness my hand this 30th day of Oct., 1904

Signature (with official title) W. F. Allen M.D.

Statistical Record

The facts required, to be given by a relative or other responsible person.

1 Full name of deceased, Sarah Boone Erase words not needed.

2 Name of last husband, James Boone Wid. -

3 Place of death, No 30 Winter Street, _____ War _____

4 Town or city, New Haven Families in house, 2

5 Occupation, Housekeeper

6 Residence at time of death, New Haven

7 Date of death { year 1904 (S) Date of birth { year 1839 (D) Age { year 65
of month Oct of month Apr month 6
Death day 29 Birth day 2 day 27

10 Sex, Female (11) Color: White, Black Other Erase words not needed.

12 Birthplace, North Carolina State or Country

13 Father's name, James Marshall State or Country

14 Birthplace, North Carolina State or Country

15 Mother's maiden name, Sarah Morgan State or Country

16 Birthplace, North Carolina State or Country

17 Place of burial, Evergreen

Information given by Daughter Sig. of person in charge W. F. Allen No. of Embalmer 21 if Licensed

Address, 30 Winter St Address, 1096 Chapel

No permit for Burial can be obtained without a proper certificate.

Figure 8 Death Certificate

I met Majorie Steward Joyner sitting in her office at the Chicago Defender Office, Chicago's major black newspaper in the city. It was started in 1905 out of a need for black people to know what was happening in their community. Marjorie has been working for the newspaper since 1928. Most of her work has been as chairperson of their charities division. Marjorie was 95 years old when I first talked to her. She was the oldest of all the women in these units. Today, in 1992, Majorie continues to go to work every day unless "I have a funeral or speaking engagement to go to".

I'LL TELL THEM OF



Majorie Steward Joyner

Figure 9 Majorie Steward Joyner

Majorle Steward Joyner

Like so many other stories about African-Americans, my story begins on a slave plantation which my grandfather William A. Dougherty owned. William Dougherty was a slave master who took a likening to my grandmother, Fannie Allegheny, a pure-blooded African girl. Allegheny was named for the mountains of West Virginia because she refused to "carry the slave owners name".

Dougherty loved my grandmother and they had children together, one of them being my mother, Annie. In order to raise both sets of children, my grandfather also delivered mail in our county. Grandfather Dougherty loved his black children as much as he did his white ones and all the children were treated equal. When the tutor came to the big house, my mother and her sisters and brothers were right there too. My mother was well educated, especially for a black person.

I'm sure that my grandfather's wife didn't like it but she knew better than to say anything about. In those days, white women knew that black women were loved by their husbands but they couldn't complain or remark about it.

By the time my father, George Emanuel Stewart, was 19 years old, he was an itinerate teacher. He would

move from one county to the next teaching. Children were only allowed to go to school before and after the planting season or before and after harvesting time. For black children, education was second to work.

My father and Booker T. Washington, both raised in Virginia were itinerate teachers. My father was from Hiram County; Booker T. from Franklin County. In 1904, when blacks in the rural mountain regions and wooded valleys of Virginia were thirsty for knowledge both men began a northbound trajectory; both went to Dayton, Ohio where they took turns teaching. The two men held classes in a clearance in the woods where we would sit under a shady tree on old blankets or wooded crates. Every once in a while they might hold classes in one of the black churches. Our classes usually consisted of reading, arithmetic and geography. I grew up in Dayton Ohio with Paul Lawrence Dunbar, a great African-American, poet as my playmate. We lived on the same block. My father spent most of his days teaching in an all white preparatory law school. We now recognized these schools as junior colleges.

My father was teaching in Virginia when he fell in love and married my mother, Annie Dorrie. He was 19. she was 13 and a student in his class. I was born to this union on October 24, 1896 in Monterey, Virginia. I was the 7th of 13 children. There were 3 boys and 10

girls. Most of my siblings died while infants or very young and before we left Virginia. Only four children moved to Dayton, Ohio. I was near 12 at the time. In 1908, I remember trekking north in a horse-drawn wagon from Monterey to Stanton, Virginia then boarding a train for Dayton, Ohio. I attended school in Dayton until I was in 7th grade. At that time my father and mother split up. My father stayed in Dayton and in 1912, I moved to Chicago with my mother. She enrolled me at the Boren School on 51st Street. After graduation I began high school but when I got married, school officials wouldn't allow me continue, so I completed that part of my education at the Chicago Christian High School.

School was important to my family. We were encourage to get as much education as we could. I was later to attend Northwestern University school of speech; Illinois Institute of Technology; Chicago Musical College in dramatic arts and public speaking; and Loop College for child development. At the age of 77 I earned a B.A. Degree from Bethune-Cookman College and was awarded an Honorary Doctrate Degree from that same institution.

In 1916, at nineteen, I entered the Molar Beauty Culture School. I was so excited when I graduated that the first thing I wanted to do was to 'do' somebodies

hair. My mother-in-law agreed to be my first brave soul. So I went to work. I shampooed her hair, just like I had been taught at the white school. Then I brushed it and combed it until it got dry. But it had s -w -e -l -l -e -d up and I didn't know how to get it back down. She knew something was wrong, so she took her hand and ran it across the top of her hair. It was a mess.

"Oh my God!. she said,"you've ruined my hair". I got scared and decided that I needed to do something quick. So I put some dandereen on it to see if it would help. But it being water based, only made it s-w-e-l-l more. Then she started screaming at me. "you just don't know how to do 'colored peoples' hair". I said, "what's the difference"? She said, "the difference is look how you did my hair. Since you washed it, you can't get it to come back down". The more I tried to get her hair to come back down, the more swollen it became.

Finally, she said, "stop! Please! Please, stop! I really like you and I think you're a good person. So I'll tell you what I'm going to do. I heard that there's a woman coming to town giving classes on how to do black folks hair. She's holding these classes in different storefronts around the city. These classes only cost \$17.50. I'm going to invest \$17.50 in you

and send you to her school, 'cause you sure don't know what you're doing otherwise". She did. She gave me the \$17.50 and Madame C. J. Walker (the first Black American to make a million dollars) was glad to get me.

Once in her class, Mme Walker saw that I was an energetic person. She showed me how to straighten that hair right out. She taught me how to use her hair dressing and hot comb to pull 'Black hair' right down. After I had learned how to do that quite well, I decided to show Mme Walker something. I showed her how to put waves and round curls into the straighten hair (I had learned that at the white school).

Mme. Walker was very impressed. So she asked me if I wanted to travel with her. She said that together we could show people how to straighten hair and then put a wave or curl in it. I turned her down because I had just gotten married and my husband wouldn't let me go anywhere. In my day, a wife cooked, served, and did all the housework her husband wanted her to do. Whatever, he told her to do she did it. It's not like today.

My husband, Dr. Robert Joyner, had just completed chopodirist (podiatrist) school when I met him. His mother had sent him to ensure that he could take care of a wife and family. I married him before I had finished high school. We stayed married until he died

in 1973. We used to joke about of our professions by saying that I took care of the head, and he took care of the feet.

Madame Walker really was impressed with my work and my knowledge. She said she had never seen anything like it before. Everywhere we went, people wanted to learn more about it. We talk about it for a while and then I decided to take a small group of interested people to downtown Chicago where I had learned how to do these waves and curls. When we got to the school, and tried to enter, they wouldn't let us in. Finally, we were able to explain what we wanted. "Oh no! they replied. We can't let you do that". "Well we have the \$50 for the course". "Oh it's not the money", they said. Then shut the door in our faces.

I kept ringing the bell and finally the supervisor came back to the door. "What is the problem", I asked. "You took me". "Well yes", she said, "but there was only one of you. We just can't take 7 or 8...we'll lose our other students".

In the meantime, I had met Dr. Mary McLeod Bethune, one sunday morning in 1918 while we waited our turn to speak at a church service. Mrs. Bethune was trying to open a school in Florida and Mme Walker was trying to get persons to let us do their hair. So everytime Dr. Bethune had a crowd, Mme Walker would be

there. When Mme Walker had a crowd, Mary Bethune would be there.

Well, after the door closing incident, I was talking to Dr. Bethune about it. "Well, where do the white ones learn how to do all those things", she asked. "Oh, they go to Paris", I said. She said "Well you'll go to Paris, France, too." "You mean for us black folks to go to Paris France", I replied. "You buy clothes don't you, you buy homes and cars and food and furs. If you can do all that, you can go to Paris, France". I harbored this dream in my heart for many years, and finally in 1955, I took 196 people to Paris, France.

In the 1950's you didn't have credit cards. Our trip cost each person \$1,300. In February, 1955, I ambled into the office of the United States Steamship line in Chicago, plunked down \$20,000 and gladly announced that this was just a deposit for tickets to Paris, France. The manager gazed at all that cash money in disbelief, then he sat down limply. Five men, including my husband, Robert, made the entire tour with me.

We spent a total of \$200,000 on that trip. Oh, what a glorious day it was for us to be standing on that steamship as it pulled away from the shore. As I stood there I wanted to shout to the world. You see

what happens when you make a "black woman" mad. And all the atrocities that had ever been laid against me came back to my remembrance as I braced myself against that rail and let the wind gently whip around my face. I remembered the time when the Molar Beauty Culture School slammed the door in our face; I remembered the time in 1932 when I sought to enter a National Beautician Contest in Chicago, but was barred because of the color of my skin; I remembered taking a train to Texas and riding all night in a baggage car with a coffin at my feet, because of my skin color. I remembered the days of going into stores to buy clothing but not being able to try on hats or dresses or shoes; I remembered when legislation was passed which declared that because I was black, I was bared from all white beauty schools, and was even given a different test when I went to seek my beautician license. We had to know more and we had to demonstrate our abilities at a higher level than whites. And as I stood there remembering, the thoughts only warmed up my fighting spirit. I became even more determined to prove that 'black' beauticians were as good as whites and that we deserve equal rights.

I was a pioneer. Everything, I did was original and most of it, I did with an original person. It was great. Nobody wanted to stop me because, I was doing

what I was paid to do. I had been trained in both white and black hair culture. There's nobody living today, that knows what I know about hair. For 73 years, I worked in the hair business.

Madame C.J. Walker first taught me how to straighten black hair, that is how to dress it after it was washed. Black hair culture is totally different from white hair culture. To simply shampoo black hair isn't enough. Besides instruction, she gave us a pressing comb, oil for pressing, shampoo and glossing oils.

After I had completed my training Mme Walker offered me a job. I couldn't travel all over the country, but I could help her to get in touch with other people who wanted to learn her method. She had all kinds of students. Some were people just off the street; some had been going through her school, but hadn't finish and the self-made beauty culturist (these were either self-taught or had been taught by boot leggers). All beauty culturist to be bonifide had to be taught by licensed people, I was licensed.

I would get person interested by demonstrating on somebody's hair from start to finish what they would be learning. It was an opened market. No one had ever tried to dress "black hair". It was great. I opened my first beauty shop in the basement of our brand new

home on 53rd and Wabash street. It was an ideal place for me. When I had no customers I would give time and attention to my two daughters Barbara and Ann. Later I opened a shop on 55th and South Park, in the heart of the prospering black business community. This was the first black beauty shop located in a department store in Chicago. This was a 7 booth shop. Eventually, I closed my beauty shop because I was away so much and like anything else, if you're not there to watch your business, they will take you for a roll of jelly beans. Mme Walker and I were the only ones I ever worked for. I worked for her from 1916 until her death in 1919. Her daughter then asked me to become a national supervisor and vice-president of the Walker Chain of Beauty Schools.

In 1928, I received a patent for my invention of a permanent hair wave machine. I didn't have the money (and I didn't know anybody who had money they wanted to loan me) to actually build a machine so I eventually consigned my invention to the Mme Walker enterprise. I was really busy during those days, but I hated not to give the idea to the public since God kept giving me those ideas. If you have gifts and don't use them, I believe that God will take them away from you. I have everything that it takes but I'm really a gifted person and I know it. I know there's something queer about me

that I don't quite understand myself. However, in the back of all this, one thing I know for sure- God has been the force behind my life.

For example, when I met Dr. Mary McLeod Bethune, that was just the beginning of a long relationship for us. Dr. Mary, a famous black educator, went on to found the Bethune-Cookman College in Daytona Beach Florida. She was a source of inspiration for me, until the day she died. I became the founder of the Mary Bethune Foundation and a trustee of the college. Over the years, I along with my newly founded Alpha Chi Pi Omega Sorority for black beauticians on October 27, 1945, helped to raise over a million dollars for the foundation. When Mary wrote me and shared her plans to build a vault for the school archival papers, Mrs Eleanor Roosevelt and I agreed to donate \$10,000 each to bring the project to fruition. Of course, the Beauty School Owners and Teachers Association, which I also founded, helped to raise funds for this enterprise as well.

My major goal in life was to fight for freedom, equality and justice for all citizens. In 1936, I became a founding member of the National Council of Negro Women. I'm the matriarch of the Bud Billiken Parade, in Chicago (the 3rd largest parade in the world) since 1929. I have also been the chairwoman of

the Chicago Defender Charities since its inception in 1945. I'm now 95 years old and I still go to work. Through my work with the Defender Charities, the Budd Billikens' Parade allows the poor and under privilege an opportunity to meet and see influential people in great array ordinarily impossible.

I told you, I have had a life of great beginning. I was also a founding member and served on the board for the Cosmopolitan Community Church. When Mary Evans, one of the pastors wanted to construct a Rest Home for aged persons, married or single, my Teachers Association and Sorority raised the funds for the home, saw the 26 room facility through its building stages, then gave a quick claim deed to the church.

During World War II, I was honored by the United States Treasury Department for my efforts in selling war bonds for the Chicago Commission on National Defense; I was director of the Black servicemen's center at the 49th St. YMCA; Mrs. Daley, the then Mayor's wife directed the center for the white men. In 1944, President Franklin Deleno Roosevelt named me director of the National Democratic Women's Campaign Committee. I traveled a lot then mainly with his wife Eleanor. I've known and work with Presidents Kennedy, Johnson and Carter. In 1987, the Smithsonian Institution, held an exhibit on the migration of blacks from the south.

They included in this exhibit a replica of my first beautysshop.

Today, I have fullfilled everything that I wanted to do. But I'm still deslrous of becoming the oldest person in the world.

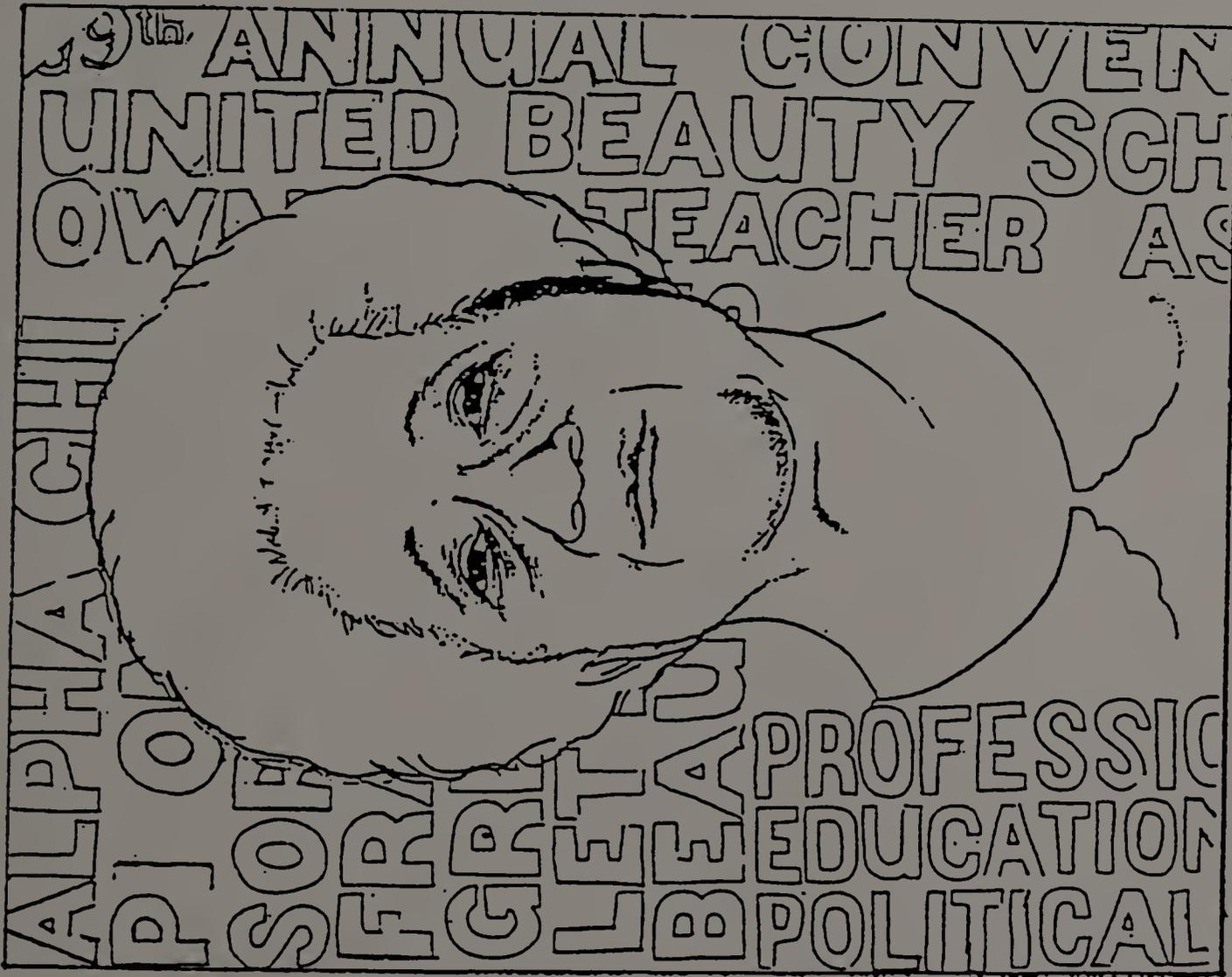
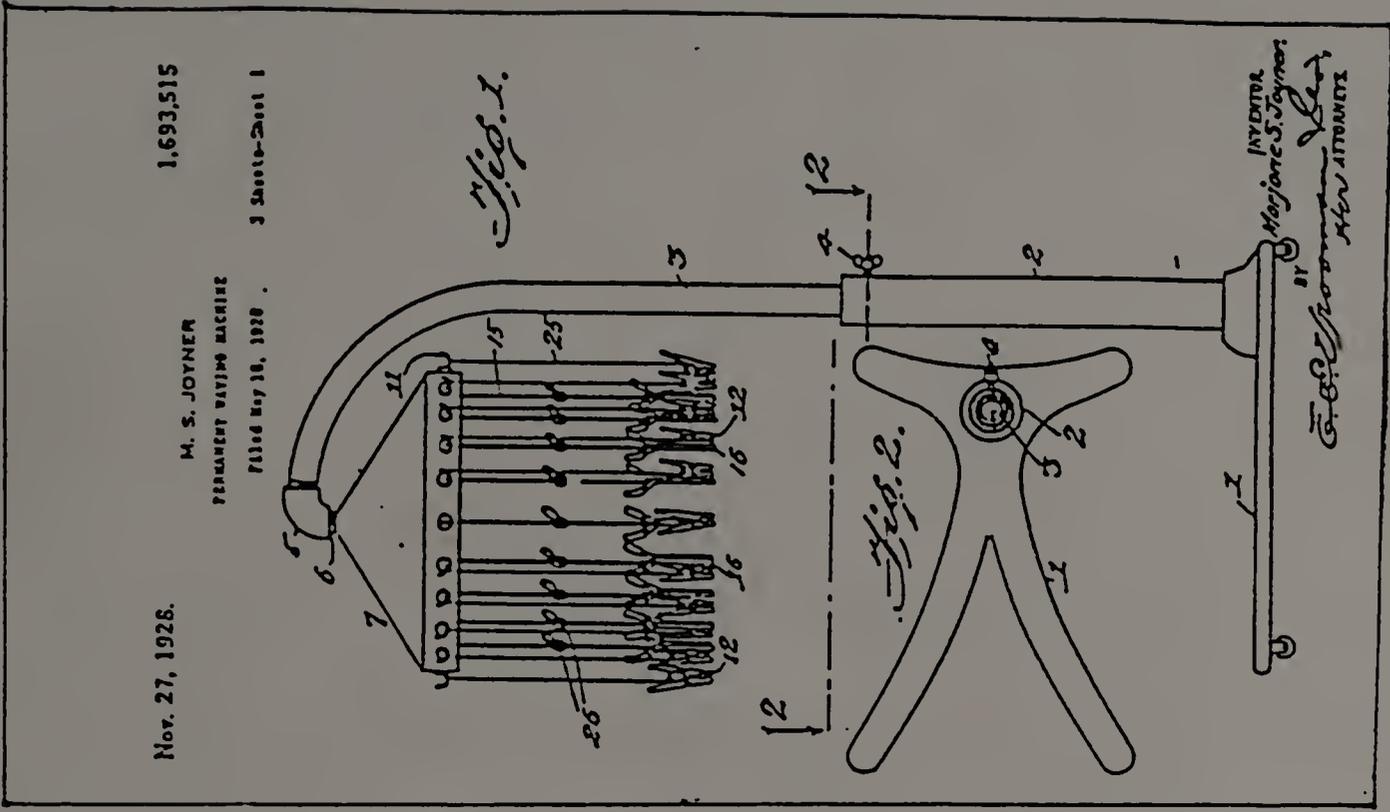


Figure 10 Permanent Wave Machine



Mary Beatrice Kenner lives in Kings Mills
Williamsburg Virginia. Her house is only one block
from Bush Gardens. She lives among some of America's
riches and most influential people. I accepted several
days of her hospitality while she related me with her
own stories. Her's is one of the most fascinating and
exciting stories that we have written. She is a very
vivacious and energetic woman. While in Williamsburg
she gave me the grand tour of her city and we went out
to dinner. It was a most exhilarating experience.

I'LL TELL THEM OF



Mary B. Kenner

Figure 11 Mary Beatrice Kenner

Mary Beatrice Kenner

Everyone's story must begin somewhere. My story began somewhere near Christmas when I was a little over five years old. Like I said, it was near Christmas, when I heard my mother tell my brother, Sugar Boy (she always had pet names for us; I was sweet sister),
.."Sugar boy, if you rake the yard Santa Claus will be good to you for Christmas". I was a little thing then, but I heard her.

My mother, Nellie Phroneberger, was a seamstress. Oh how, she used to dress me. This particular day I was looking especially cute. Anyway, I went to the yard where my cousin and brother were raking leaves. They had made two piles of leaves. So, I decided to help them, because I wanted Santa Claus to be good to me too. I didn't know that some of the leaves were lit. I grabbed an armful, from the pile nearest me, hoping to make just one pile. I don't know why one pile was so important. I just reached down, grabbed those leaves so nicely and had them clinging to me as I tried to place them on the pile.

Mama was holding my little brother, and watching us out the door. The baby was wrapped in his blanket

when my mother noticed that I was on fire. She laid the baby on the floor, snatched his blanket off him, took the porch stairs two by two, grabbed me, knocked the burning leaves away and wrapped me in the blanket. As she ran toward the house, she called for my grandmother, who lived across the hill. Grandmother come right away.

My family lived in a white section of Charlotte. My father had a clothes pressing business near the house. My grandmother really stood out in the community and weld great respect from black and white alike. People would go out of their way to do for her. There were five doctors who lived in town. My father gathered each of them so that they could look at me. They looked all right. I remember. I remember them telling ma and pa that there was nothing they could do because I was going to die anyway. She's swallowed too many flames, I heard one say.

My grandmother, on my fathers' side, was sitting there, rocking and holding me. In those days she was a midwife and a veterinarian. She cautiously, rather defiantly look up to those doctors, her eyes meeting theirs and boldly told them that where there's life, there's hope.

The doctors weren't convinced by her bulldogtenacity, but told ma and pa that if I wasn't dead

within 5 hours they would see what they could do for me. They left. My mother and grandmother were country women. They had experienced many hardships before; they had never given up. So these two great black women sat in a rocking chair in front of the fireplace and held me to their chest for 6 weeks. They kept a fire going at all times. When one had to leave to attend to an errand, she would hand me to the other. Because of these two great women I survived.

My going through that experience has been the inspiration for my life and has directed my living. I have just finished writing my autobiography "It Burned My Body But Not My soul". I have yet to find a publisher, that should happen in the very near future. The accident had burned my lips so badly that they grew down to my chin. I couldn't go to the Good Samaritan (the black hospital in Charlotte) for they had no knowledge of how to handle burn victims. Mama couldn't get grafting done, for people just simply didn't have those kinds of skills. So I grew up with my lips like that. You can imagine that I went through hell. The kids called me "burnt face" and didn't want to play with me. Mama kept me tip-top stylish and when I was old enough, I was always in my mothers make-up fixing myself up.

I don't think that I would have striven so hard to be somebody had it not been for the many comments and put downs that I heard along the way. People used to say "she ain't never goin' to be nobody". Yet the more I would hear statements like those, the more determine I became.

I was born May 17, 1912 to Nellie Phroneberger and Robert Davidson. My mother came from an Indian, Irish, German ancestry, while my father was considered a mulatto, whose parents were slaves owned by the Davidson family. His mother was white, his father a slave. The Davidson motorcycles and Davidson College in Charlotte North Carolina belong to this family. Both my fathers' grandmother and her daughter were chambermaids directly out of slavery. Because they were mulattoes, they weren't kept in slavery, however, they did stay on the plantation. Eventually, my great-grandmother owned 25 acres of a plantation and raised twelve children on it.

My mother wrote a book called "Eternal Triangle" but could never get it publish because she was a woman. My father had several occupations. He graduated from Johnson C. Smith College and received his Bth from Howard University. He owned a lucrative funeral home in Gastonia, North Carolina. He also was a pastor in that same city.

When we lived in Charlotte my brother, sisters and I went to a private school. These schools were very expensive but my parents had no other choice. There was a country day school near our home but we were not allowed to attend because we were black. By the time I was twelve years old, my mother had gotten a taste of big city life in Washington D.C. Her sister lived there and when Nellie could she would go and visit. She begged Sidney to move up there and eventually he gave in to her. I finished Jr. High at Shaw and completed Dunbar High School four years later.

When my parents moved to Washington D.C., my father couldn't get a job. Eventually he left Washington to conduct my oldest brothers, funeral and never returned. He used to send money to my mother but eventually that dried up and we were on our own.

Life was good then. My older brother Perry and my youngest sister Mildred and I formed a jazz group. My father, being a preacher, didn't want us singing that kind of music. Arthur Goffery, who was sponsoring Pearl Bailey, took great interest in our group. He wanted us to sign a contract but Mildred being too young had to get pa's signature. Under no circumstances was he or did he sign. Our first stage name was "Spade Flush". Arthur Goffery gave us that name. We later changed it to Perry and his sisters.

"Spade" anything was more than we could bear especially without a contract. We did have numerous opportunities to sing on radio and perform on stage. We wrote our own music and although life was hard, it was fun. We never did get another offer for sponsorship.

I started working when I was 14 year old. I worked in a women's hospital down the street from our N St. NW apartment. I later worked for the government for 18 years. When the government promoted people with less seniority than me and with less experience just because they were white, I knew it was time for me to move on. I became a housewife for a year and then opened a flower shop after completing floral arranging school. Actually, I had four flower shops scattered throughout Washington D.C. I worked in my shops for over 23 years.

I've done a lot of volunteer work with the girl scouts, the church, as a war chaperon and as a certified Red Cross nurse at Howard University Hospital. I always wanted to be a nurse. My father promised to send me to Tuskegee College, but that never materialized. No one would admit me anyway into nursing school because I was a 1/2 inch too short. They had height requirements then. You girls and boys are lucky. There are no such requirements now.

I never gave birth to any children but later in life my husband Jack "Jabbo" Johnson, a renown heavy weight boxer were foster parents for five boys. All the children have been to college, although not all finished. Jabbo died before we could finish raising the children. We enjoyed them while we were able. The years we lived in McLean, Virginia in a mansion that Jabbo had built for us, overlooking the Kennedy's complex, were some of our best years. We traveled with the kids, took them everywhere they wanted to go. That's how we came to move here to Williamsburg. We were down here visiting Bush Gardens with the kids when we came to visit Kings Mill. It really wasn't design or encourage for black folks to move into but we thought we'd look at the houses anyway. Well, I found the cutest house you ever wanted to see and everything was right on the first floor, not like our mansion.

We asked the agent to show us the house. He did. I decided I liked it and would like to buy it. The agent told me that they already had a buyer for it. I told him that I would give him a down payment right then and would pay the entire balance the day we moved in. Now that was an offer nobody but a fool would pass up. He was no fool. He sold us the house and I've been living here ever since. Life had been good to me and I try to reciprocate

Now about my inventions. My first invention 'idea' came when I was only 6 years old. We had a swinging door in our house. Every time someone would go through the door, it would make a screeching sound. I remember my dad oiling the hinge, but soon, that old door would begin screeching again. I remember telling my mother that we needed a self-oiling hinge. She shook her head ok and I went outside to make one.

By the time I had reached 18 and was a Jr. in high school, I actually patented my first device. This invention was called a calaminio pad (a sanitary belt) (fig. 12). My second patent was an improvement on my first. Johnson and Johnson Company expressed interest in it but Sonn-Nap-Pack Co. went beyond just interest. As a matter of fact, by the time I had reached my last year in high school, Sonn-Nap-Pack had made an appointment to visit me one Sunday morning with the expectation that I would sign a contract with them.

I remember, I didn't go to church that day, we were so excited. In my mind, I had built I don't know how many castles or how many cars I had brought. Then the door bell rang. We opened it. I tell you, you should have seen the look on those men's faces. You'd thought that they had seen a ghost. They had absolutely no idea that they had been negotiating with a black person. They would've turned and ran if they

could've. Every inch of their bodies signaled that that's what they wanted to do. Instead of running away, they came in. Then they tried to find every reason under the sun as to why I couldn't sign that contract.

I tried to manufacture the device myself, but we really didn't have the money. The Sonn-Nap-Pack Company tried to get a patent on and manufacture my invention, but my patent was already recorded and they couldn't do it.

If after 17 years you fail to renew your patent, it becomes public domain. I did not renew mine, so after 17 years the manufacturing of my patent became public domain and companies began to manufacture it. I never made any money off it.

The calaminio pad was my first patent. It cost me \$200 to patent. My last patent was a back washer. It cost me \$2,200 to patent. You can patent your own invention, but it's much easier to go through a patent attorney. They will do the leg work for you. Your other choice is to write a letter with a full description of your invention, sign, date it and send it to the patent office in Washington D.C.

Although selling just one invention would bring joy to my heart, I invent because it's my talent. My grandfather, Tony Phoneberger was an inventor.

My grandfather, Tony Phoneberger was an inventor. That's where I get my gift from. At my last count, I've had ideas for 100 inventions. I've drawn up 30, but I've only patented five. In 1952 it was my calaminio device, 1956, an improvement to my first invention (fig. 13); 1982, bathroom tissue holder (fig. 14); 1976, carrier attachment for invalid walkers (fig. 13); and a back washer in 1987 (fig. 14).

At night when I should be fast asleep, I'm laying in my bed creating. Then I'll get up, draw up the plans. The next morning I try to make a model. I used to go to the commerce department and complete my search, but now at 79 years old, I can't do that. I leave it up to the attorney. If I have a legitimate claim, he'll proceed.

I have many inventions, one that I have not patented is a special passenger plane, that if a company would manufacture it, you wouldn't have all these people killed when a plane is in trouble. In my invention the skeleton of the plane would fly loose and fly away from the passengers. Then the flying pieces of metals that kill people couldn't. Obviously, some people would still get hurt, but not nearly as many.

My latest invention is a portable garage. Everyone who owns a car deserves a garage. When

god gives you a talent you never stop. You just keep on going. I'll say it again, my abilities to produce inventions is a gift. I got it from both sides of my family. Even my sister Mildred is an inventor. The light switch on the railroad track, red, amber and green, my grandfather (Robert) invented that. It was stolen from him. Just like many inventions were stolen from black people. He was demonstrating it for the railroad company and three of the white men who worked for the company patented it before he could raise the money to do so himself.

My father invented a stretcher with wheels for ambulances. He got a patent on that. He also has a patent on a window washer for trains. I have an old suitcase full of my father's drawings. In 1914, he invented a pants presser (fig. 12). He had it set up like a suitcase. While you traveled you would also be pressing your pants. A company in California offered him \$15,00 for his patent. This amount of money was tantamount to becoming a millionaire. My father didn't accept the offer because his brothers told him that he could get more money than that if they manufactured it themselves. He didn't take the offer and his brothers help him to make only one.

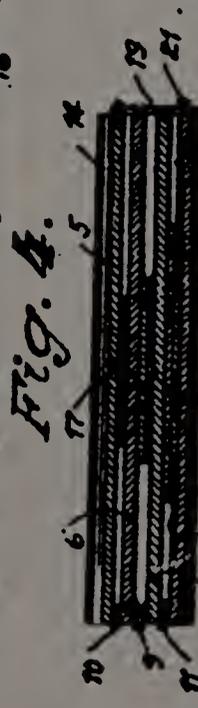
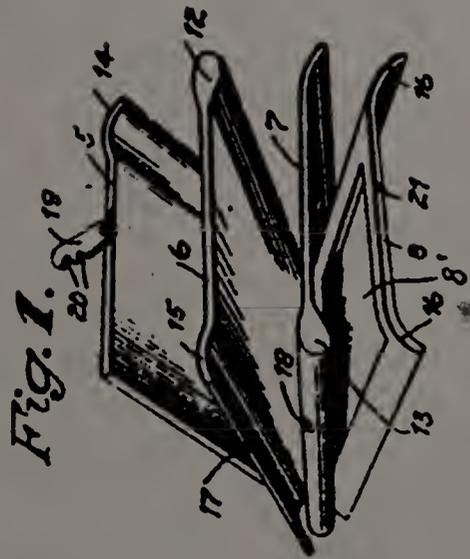
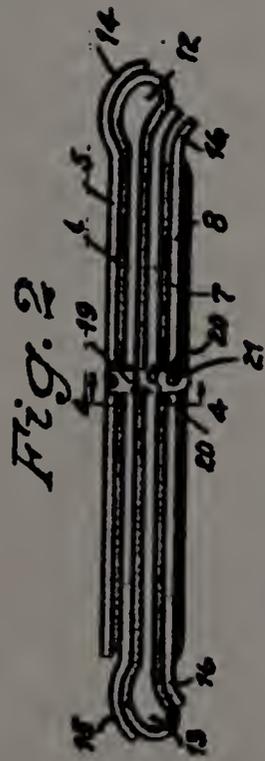
I have a company that is interested in my portable garage. This might be the one. If it gets

Inventions. Until that time comes, I'll continue to
invent.

S. N. DAVIDSON.
PANTS PRESSER.

Patented Feb 24, 1914.

1,088,889.



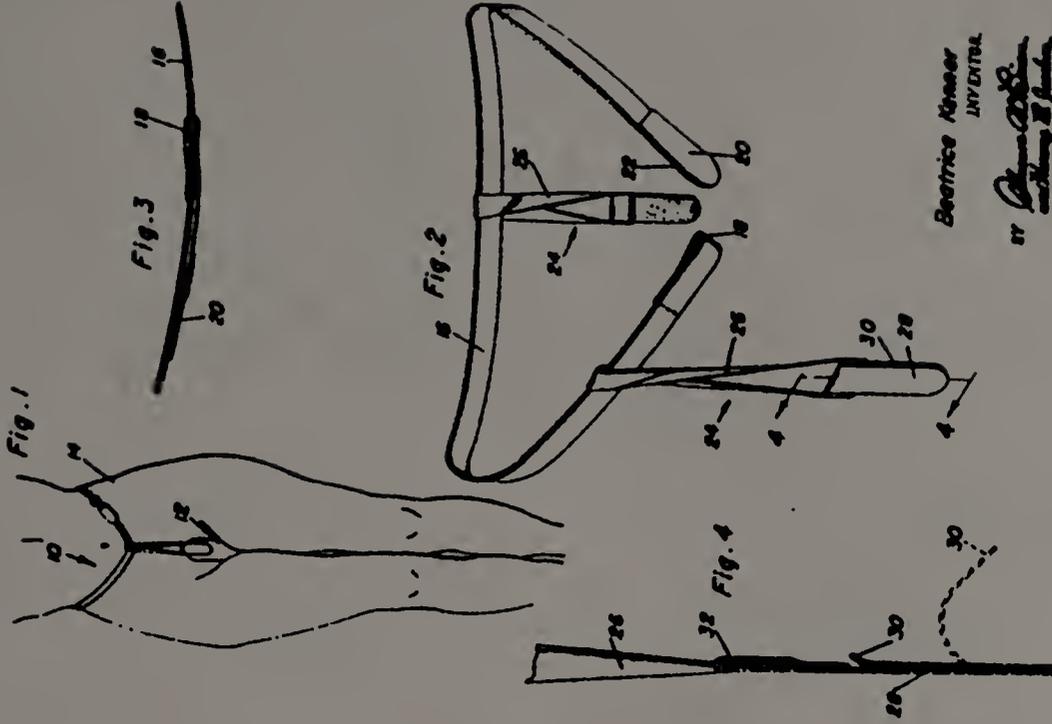
Witnesses
M. S. Watson
S. N. Davidson
Inventor
[Signature]

May 15, 1966

2,745,406

B. KENNER
SANITARY BELT

Filed July 20, 1964



Beatrice Kenner
INVENTOR

[Signature]

Figure 12 - Pant presser / sanitary belt

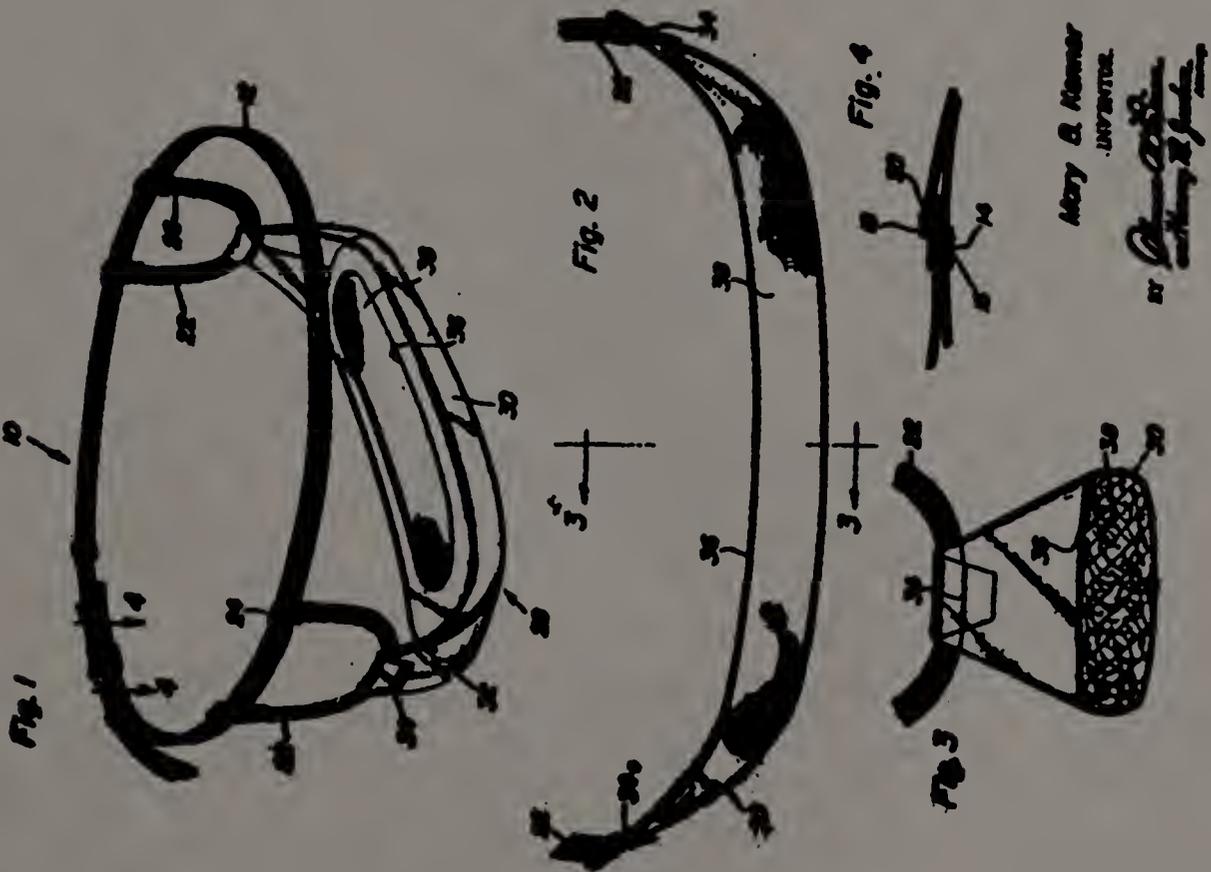


Figure 13 Waterproof pocket/ carrier attachment

FIG. 1.

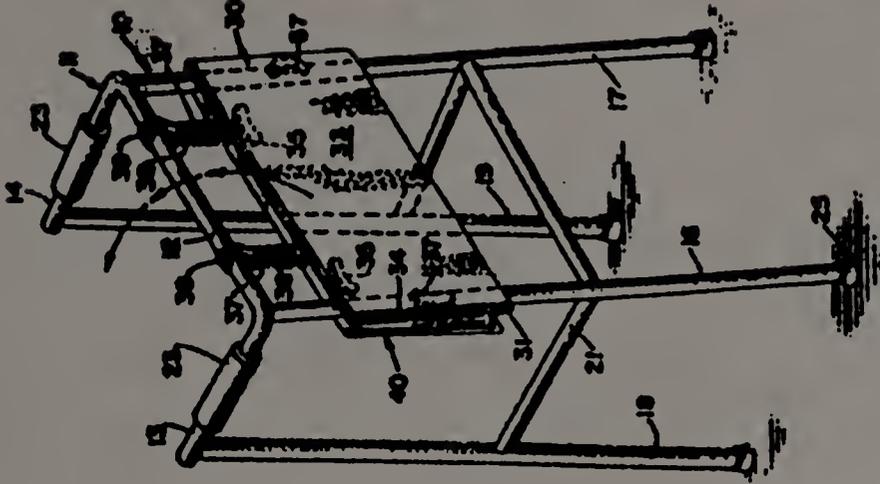


FIG. 2.

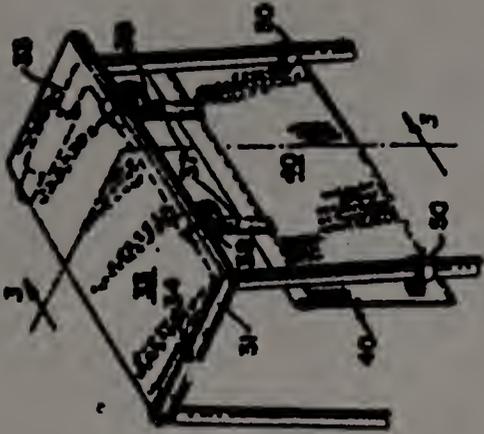


FIG. 3.



Fig. 1

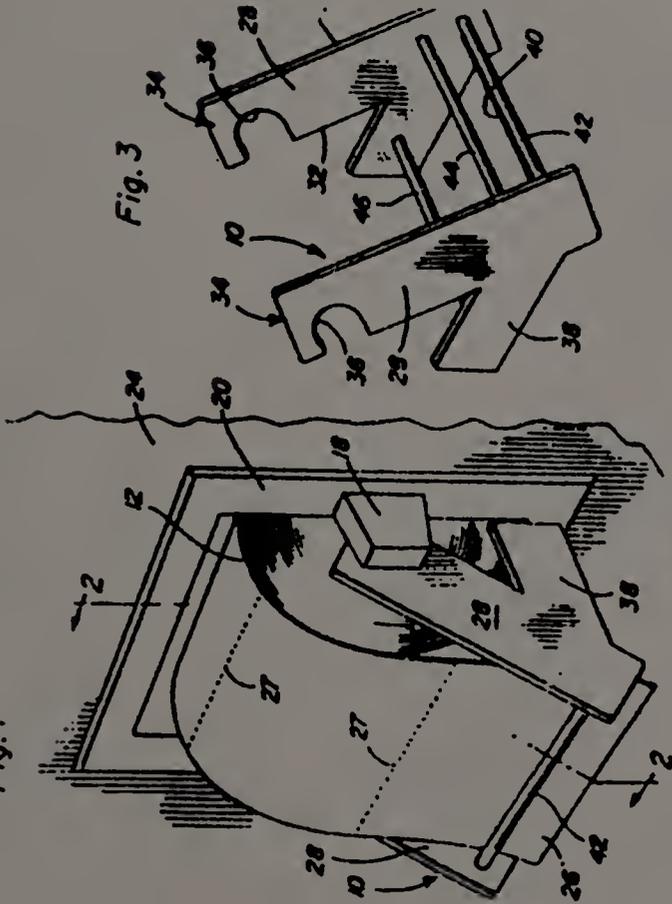


Fig. 3

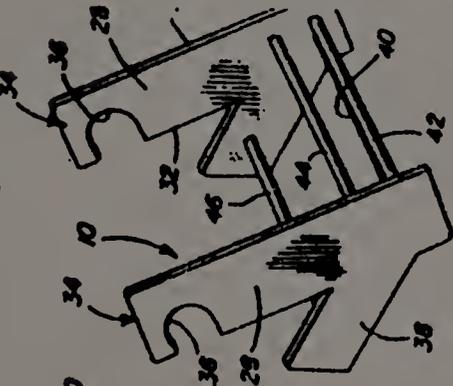


Fig. 2

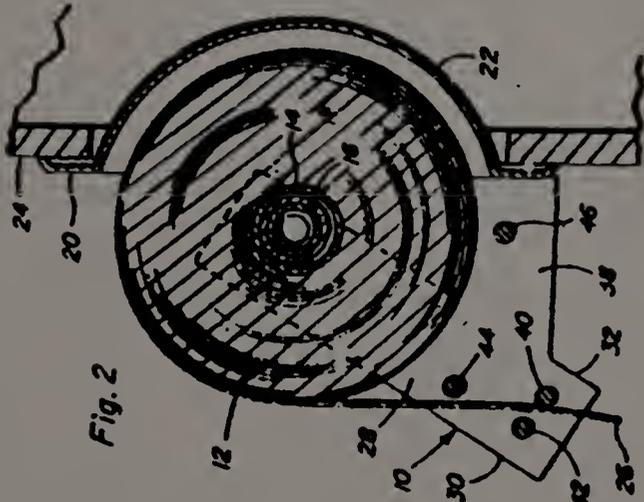


Fig. 4

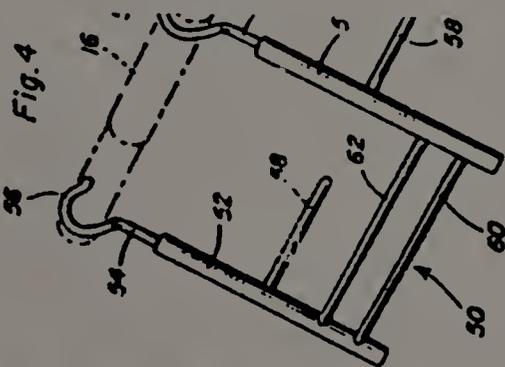


FIG. 1

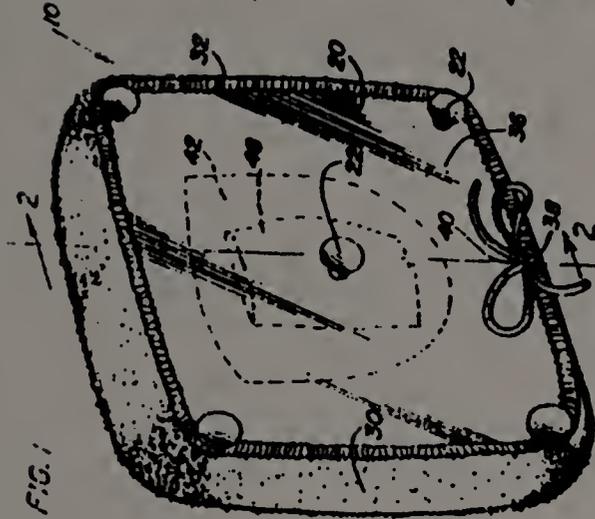


FIG. 2

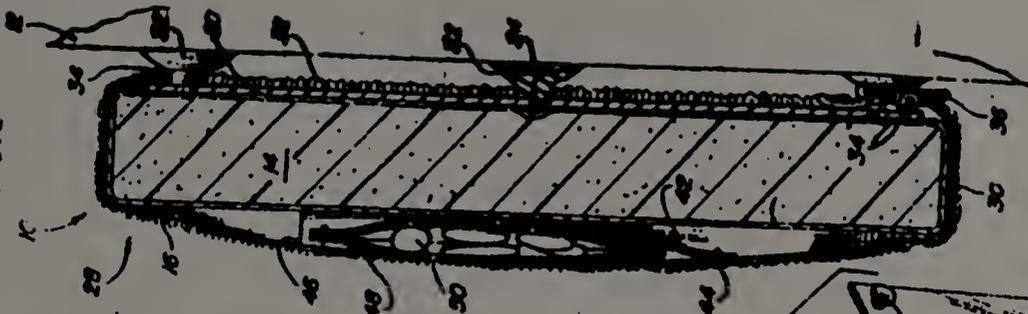


FIG. 3

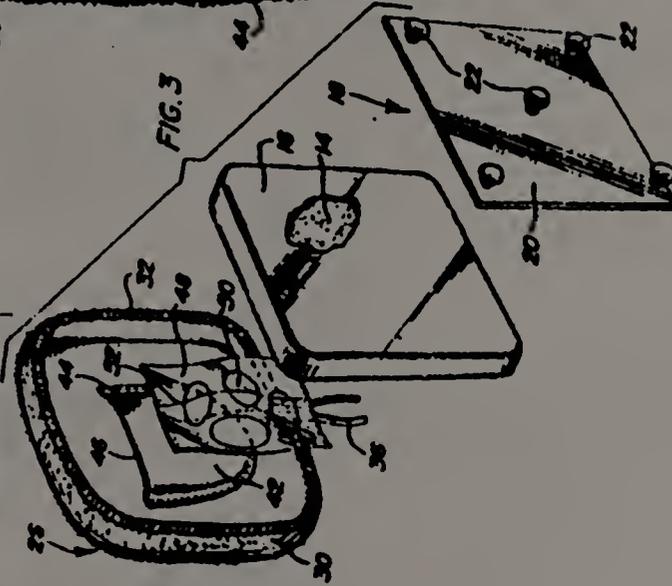


Figure 14 Toilet tissue holder/back washer

Mildred Austin Davidson Smith was the very first person that I interviewed in this project. I was on vacation visiting the Washington D.C. office seeking information on black women inventors when someone told me that one of those women lived in the D.C. area. I immediately went about seeking a telephone number for her. When I called and told her what I wanted she invited me to meet with her at her church, Shiloh Baptist. She gave me the address and we agreed upon a time and off I went. I taped the session I had with her and it was a great day. The next day she invited me to her house so she could give me a picture and the game that she had invented. I was most impressed. She set the pace for me in obtaining not only information about her invention and what made her invent, but she led me to understand that knowing the person and understanding their lives was most important for gathering herstories.

I'LL TELL THEM OF



Mildred Austin Smith

Figure 15 Mildred Austin Smith

Mildred Austin Davidson Smith

My name is Mildred Austin Davidson Smith. I was born to proud parents Sidney N. and Nelly Saxon Davidson, in Charolette North Carolina on January 31, 1912. I was the youngest of four children, two boys and two girls. Perry Henry was the oldest, Mary, Leighton Nathaniel and I, of course, was the last.

When I was nearly six years old, my parents decided to leave Charolette, North Carolina and move to Washington D.C., where they hoped to provide a better educational experiences for us. My father was a minister. He was a real bona fide preacher who had attended Johnson C. Smith College and later Howard University. He had six brothers who were also preachers. All of them remained in or near Charolette. When my father wasn't preaching he managed a funeral home in Gastonia, South Carolina.

My mother never worked. She was an artist. She spent most of her time writing poetry and painting. My mother loved to paint, especially oil painting. She did a lot of sketching and occasionally wrote stories, none of which were published. During those days, if you were black and wanted to publish something, you had to do it yourself. White publishing companies were not interested in publishing anything that black people had

written. When we moved to D.C. my mother attended the mechanical arts program at Armstrong High School to help her in her artistic endeavors.

Me, well I've taken talents from both of my parents. I've done my inventing, which I get from my father and his side of the family. But I love my more artistic and creative side which shines through in my softer musical side. My brother and sister also show this same tendency toward similar giftedness in our parents footsteps.

I entered school at the age of six entering Langston Elementary School in 1918, went on to Shaw Jr. High School and graduated from Dunbar High School. After high school graduation I wasn't sure what I wanted to do so I stayed out of school for a year and just fooled around with my music. Once I had chosen music as my entre into life, I enrolled in Howard University School of Music. All of the Davidson children except Leighton finished high school, but I alone took advantage of the prolific higher educational experiences abounding in the Washington area.

I said that all of us except Leighton finished school. Well he didn't finish because he died at a very early age. Leighton was about 11 years old when we moved to Washington. One day he was in his usual playroom (our basement) pretending to be an inventor.

He took one of my mothers' old dress forms and decided to make a stool out of it. When he constructed the stool, he did so with a rod running through the middle of it to give the stool stability. Having decided that he had done all he could do to perfect his stool he sat on it. But when he did that the rod that went through the middle of the stool went up his rectum and tore his bladder. He never told anybody what he had done.

Later that day the man that rented our garage overheard my mother telling a neighbor that Leighton looked sick and he was just sitting around the house. The man came into our house to take a look. One look convinced him that Leighton was very sick and he told my parents to take him immediately to the Freedman's Hospital. Most black people didn't like going to that hospital because they were not sure that they would come out alive. It was 'THE' black hospital in D.C. and if you wanted hospital services that's where you went.

Anyway, my parents took my brother to Freedman's and the hospital did what they could but he died later on that night. Urinic poison they called it. My parents took his body back to Charolette and had him buried at the Salem Baptist Church graveyard. I sometimes think that I should buy a plot of land somewhere up here in D.C. and move his body back here.

Music was what I really liked in life. As a teenager I sang with my sister and brother Perry in a group we formed and called Perry and his sisters. We had an opportunity to sing with Arthur Goffery and his showcase but my father wouldn't sign the contract for us to do it. Perry and Beatrice were actually old enough to sign for themselves but I was still underage and my father said no. His argument went something like this. What would the community think if I, the preacher, allowed his children to sing and get on stage and do all those kinds of things. I raised church children.

Singing was in my blood. Singing was something I felt that I had to do. So I sang. I entered Howard University School of Music and majored in voice. Todd Duncan was my voice teacher. While I was attending school there I organized a group called the 'Lyrics'. There were five of us, all girls. We traveled all over the eastern states singing and having a good time. While in my early twenties I participated in several operas around the D.C. area. My first was "Faust", which I performed in at Griffith Stadium. In its day it was the major stadium in D.C. They have since torn it down and have constructed a new one. I sang in "La Traviata" and was the assistant director to Madame Evante, who was the first black woman to perform an

opera in Paris. She passed away in 1982. She was very well known and loved in Washington. I was a member of the Howard University School of Music for nearly 2 1/2 years. And while I was there I helped to direct the Evante Chorale, a community group of 20-25 girls. Most of the girls went to Howard.

The best offer I ever got was one to go on Broadway in the late 1940's. I was given the opportunity to audition for the role of Carmen in the black opera Carmen Jones. I was married then to Rev. Ralph Austin and he didn't like the idea of me playing the role of a girl which he thought was a 'hussy'. I turned it down only because he like my father before him was a preacher and he kept saying that it just didn't look right to have a husband as a preacher and playing a role such as that. Ralph passed on in '78. ...I really missed my opportunity there. For to have played that role would have put me several steps up-right into the big time. Life goes on and I went with it. I played (the piano) and sang everywhere I could. I've sung all over Canada, California, and up and down the east coast. When I wasn't traveling for concerts I worked as a choir director for 26 years at Tabor Presbyterian Church, 2nd and S st. NW. I've played for the adult choir at Ebenezer Methodist Church for many years and for the young people's choir at my own

church, Shiloh Baptist Church which I've been a member of for over 50 years.

I never finished my degree program in music because I contracted multiple sclerosis. However, before I contracted the disease, I had ample time to sing and share in numerous performances also with the National Negro Opera Company.

Having contracted multiple sclerosis really truncated my work in the music field. At first it wasn't so bad but eventually it got worse and it was just impossible for me to stay in school and to keep up with my music. I just couldn't do it. So first I dropped out of my program at Howard. When I became confined to my scooter chair, I gave up singing but I still continue to play now and then. It was during one of my major attacks of the disease that I had the idea for my invention. I was just lying in bed when it came to my mind. I reached over to my night stand and began to work out the details. I played around with it for a while but never really did anything with the concept. My invention is a game called 'treedition'. This game is a genealogy game used to teach persons about their family relationships. I tried twice to obtain a patent for this game. The first time that I tried to patent it, the patent office told me that the game wasn't valuable and therefore was not worth patenting.

Somewhat discouraged, I allowed the idea to drop for a while. However, while recuperating from a serious bout with my disease, I once again decided to tackle the problem of having my idea patented. This time with much persistence, I was able to obtain a patent.

Not able to find a manufacturer for the game, I borrowed about \$ 5,000 from my sister, Beatrice Mary, so that I could have the game packaged and marketed. Although, I have done well in selling my game I really wish I could get one of the game companies or a black book company to manufacture the game. I think the game could get into the hands of a larger market that way. I do however move around the country demonstrating the game and playing it wherever I go. I lecture at senior citizens events, school events, especially the elementary schools, and church functions (see fig. 16).

I recently contacted the company which printed the first edition of my game to get a second edition printed. The company sent out this person of Dutch descent to speak to me about it. When he got to the house and saw that I was black, he acted like the company couldn't do anything for me. You know white people don't care nothing about us. They think we don't have anything going for ourselves. The only thing this man did was to give me a lot of excuses about why the company wouldn't be able to reprint the game.

Finally he left. I was glad. But the company itself has not seen fit to contact me since. I will get my game out in a second edition. That's what it means to be black. We don't step back for anyone or anything.

I come by this gift of inventiveness, honestly. My sister Beatrice Mary, whom I borrowed the money from, is also an inventor. Mary has received a patent for at least six various articles ranging from a toilet paper holder to a carrier attachment for invalid walkers. But my familiar ties to inventions also extends to my father, who was know for his many inventions.

My father, Sidney Davidson, used to spend many hours drawing and making models of his inventions. I remember spending many hours looking at his drawing trying to make sense out of them. I know my father took out a patent for a pants presser. He wanted to manufacture the pants presser, but didn't have the money to do so. When he asked his six brothers to help him, they thought he was silly and refused. Finally he sold his pants presser for a mesely \$34,000. His Window washer invention didn't fare as well for him as did the pants presser. This invention had a 2" wide brush on one end and a long handle with a bulb on the other end. When you pressed the bulb, it sprayed water on your window, then you used the other side,

which was rubber to wipe the water away. Sidney made this invention to make his job for the Pennsylvania railroad easier. By the time he gathered enough money to patent his invention, it had already been patented by the Pennsylvania railroad. It is not uncommon for white people to steal the inventions of blacks. Blacks were usually unsuspecting and knew little about securing their ideas until they could properly patent them.

My grandfather on my mother's side was Robert Phroneverger. Robert was a self taught man, who ultimately raised 12 children. Many of his working years were spent working the fields in North Carolina. Later in life he worked in the Geo-physical lab in Washington D.C. It was during this time of his life that he invented a light switch for trains. Not knowing how to protect his invention, it, like many inventions by black people, it was stolen and consequently manufactured by the company that he worked for.

In 1992, I live in Washington D.C. and am in a wheel chair-scooter most of the time but I continue utilizing my creative talents by running a flower shop for Shiloh Baptist Church, in Washington, D. C., the church where my youngest son Ronald Austin currently serves as the assistant pastor. His brother Ralph Jr.

owns his own electrical engineering consulting business and lives in New York city with his wife and 15 year old daughter Tiffany Danielle.

All in all I am just such a believer in people following their dreams. It is so important. I certainly followed mine

as long as I could and I encourage all of you to do the same.

FIG. 1.

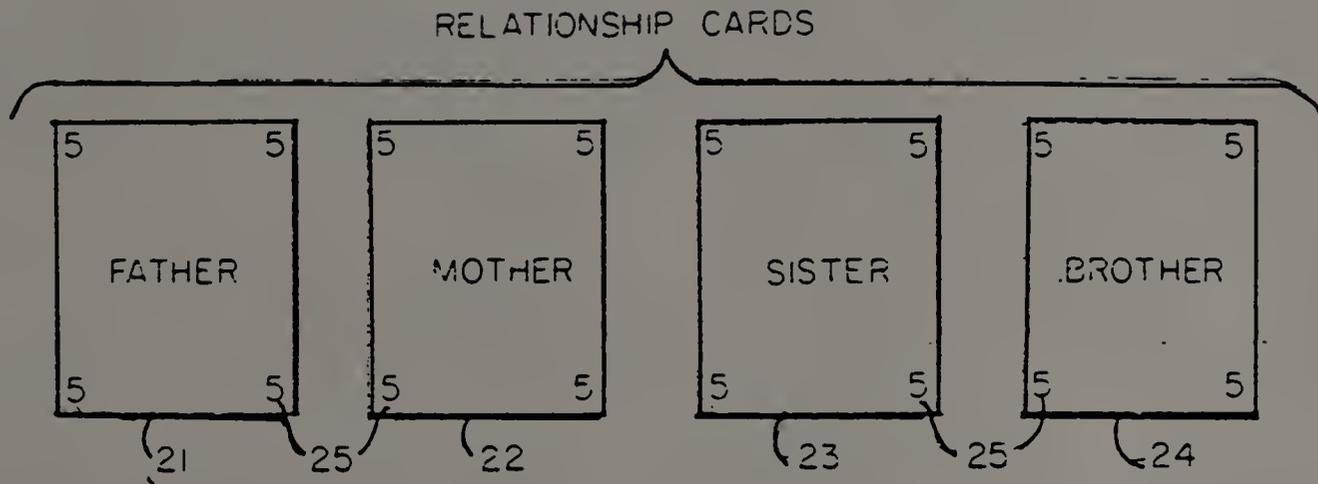


FIG. 2.

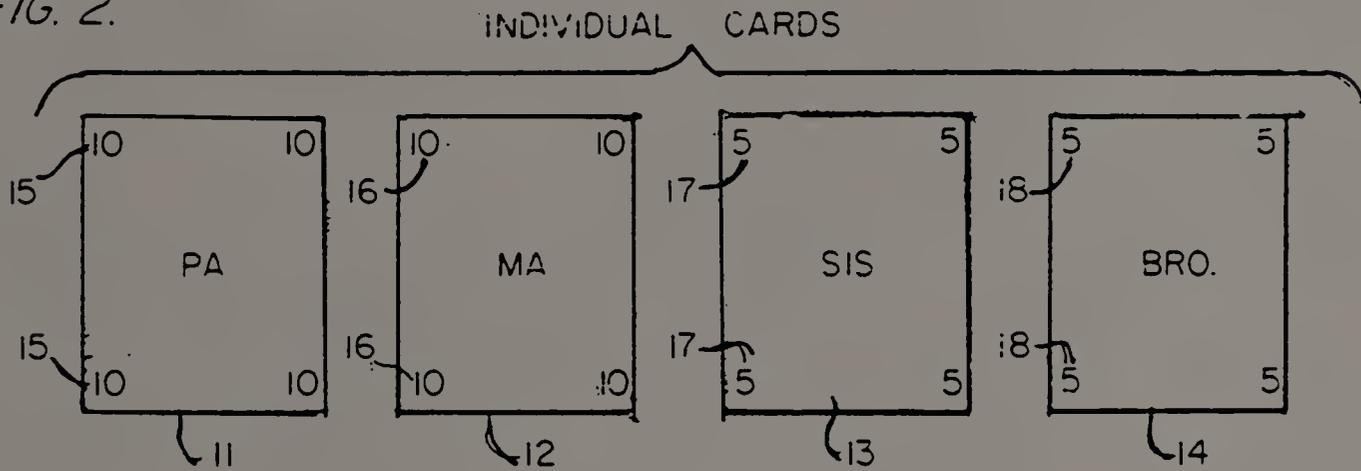


FIG. 3

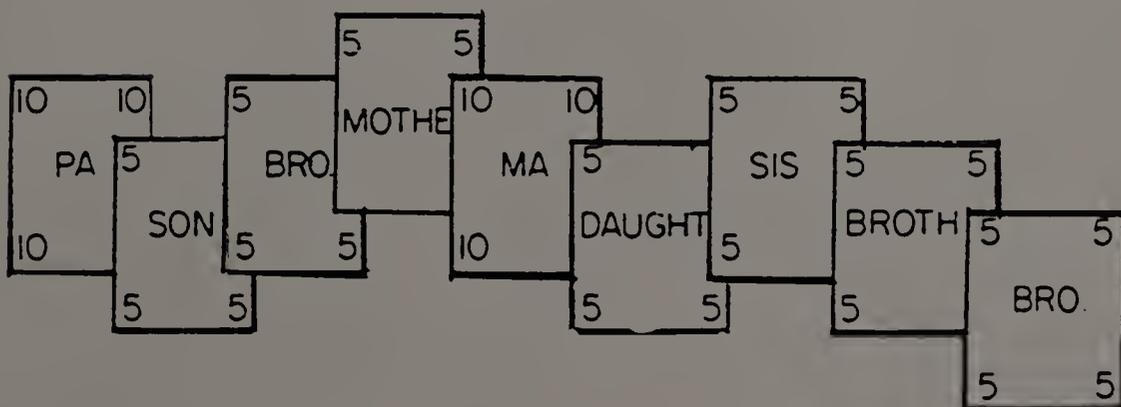


Figure 16 Treediton game

CHAPTER V

YOU CAN'T KEEP ME FROM MY CALLING: A HARMONIOUS INTOXICATING AROMA OF THE CHARACTERISTICS OF BLACK FEMALE INVENTORS

The preceding chapter has presented biographies and autobiographies of five black female inventors who not only succeeded in patenting their inventions but excelled in their work in spite of nineteenth and early twentieth century restraints. These women were included in this study as models of the contributions that have been made available to the American public solely through the efforts and ingenuity of black females.

Historically, black women have received little to no credit for their inventive spirit. James Baker, a historian and writer, put together a list of nineteenth century black inventors. On that list, he placed the following three black females: Miriam Benjamin, who patented the signal and gong chair; Sarah Boone, who patented the ironing board and Sarah Goode, who patented the folding cabinet bed. These three black women are only representatives of what black female inventors had to offer America.

Neither these three women nor the women in this study make up a comprehensive list of black women inventors. For example we have yet to discuss Ellen Eglin. Ellen who lived in Washington D.C in the 1890's is the first known black woman inventor. She was a member of the Women's National Industrial League and she invented a clothes-wringer. Ellen never patented her invention but sold it instead for the total sum of \$18.00 in 1888. The Wringer was a great financial success to the buyer. When Ellen was asked why she sold the invention so cheaply after having invested months of study to it; her reply was simple. "You know I am black and if it was known that a negro woman patented the invention, white ladies would not buy the wringer. I was afraid to be known because of my color. I am however, working on another invention and when I'm finish, I will have the money to push it after the patent is issued to me. This invention will be known as a black woman's invention. I will place a model on exhibition at the next Women's International Industrial Congress to which women of all colors are invited to participate."

As consideration is given to Ellen Eglin's description of what it was like to be a black female inventor, three major categories can be delineated and utilized to analysis herstory and the

biographical/autobiographical data collected on the five black female inventors.

INVISIBLE DIGNITY is a phrase coined by Katie Cannon (1988). Loosely defined it means a typical state of affairs for black people that allows each to maintain a feistiness about life that nobody can wipe out, no matter how hard you try, and regardless of the amount of suffering that one endures. Invisible dignity depicts a picture of "you finding your head in the lions' mouth", (as my mother used to say) where you understand the necessity of treating the lion very gently.

When Ellen made her decision to sell her invention for only \$18.00 she had to have made some choices. An example choice would have been: shall I allow misunderstanding to destroy my dignity based on white perception of who I am as a black woman or do I "give" them my invention and maintain my dignity and self-worth (as a black woman) even though I may never get credit for the legitimacy of my work?

It is common for black women to experience the desegregation of racial, sexual and classist universal opposition to their real selves. It is common knowledge that black women are often treated as inferior, comic and sometimes even as a primitive being. Beatrice Kenner understood those experiences as

she stood at her front door expecting Joyous news of having sold her patent, when what she got instead were looks of contempt and disdain because of the blackness of her skin. Majorie Joyner learned how to salvage her self-worth and maintain her dignity with integrity as she discovered that her acceptance into beauty school was hers alone to experience, certainly not to be shared with her black sister. Mildred Smith discovered that she must learn how to affirm her own worth without scampering for male validation from her father or husbands to find meaning for her life even under the most despotic circumstances. She had to create possibilities for her life when others (white, males, and high class folks) thought none existed.

Invisible dignity as exhibited by these women means living through the suffering of the world but not allowing the wrongs to overwhelm you; to be able to balance out the complexities of life by renaming the power of your existence when you need to. Black women invisibly fight back by totally renaming their reality which thereby allows them to salvage their selfhood amid all odds. Invisible dignity is learning how to not only survive in the midst of this chaotic world but knowing how to survive with "integrity" against a cruel system of triple oppression. Invisible dignity is like being caught between a rock and a hard place and

learning how to gently as possible pull your head out of the lions mouth and live.

Each of our inventors had to move beyond the societal dictated of their days. Each was able to do this by looking at the world with a new pair of eyes. Each woman had to go deep down inside of herself and form her own judgements and sometimes totally demythologize societal legitimacies and act from a perspective that was invisible to the world but right for them.

Sarah Boone tried marching to the beat of the world's drummer, but had to decipher her own tune, seen through her walking through the streets carrying wood like a common man; seen as she cut, sawed and hammered day and night in her basement like a common carpenter; seen as she heard her own musical sounds that culminated in a ironing board, the first of its kind. Beatrice Kenner had to see her world with a new pair of eyes. Instead of being afraid of the black men who insisted upon hanging around her shop drinking and swearing and keeping potential customers away, she had to make friends with these men like most people refused to do. These men eventually became her best customers.

So through these women we have learned that the hope of black femininity lies in each black females ability to live life through invisible dignity.

The second asset each woman had was what we shall call "unshouted courage". In the black religious tradition, there is what is called a 'shoutin' religion. To "shout" is to audibly call out praise and blessing to God. When black folks shouted, persons were able to initially gain a kind of transcendence over their degraded slave condition. Shouting allowed blacks to sustain some similance of inner strength and self-affirmation. Shouting was an important emotional release that was paramount in a society that was hostile to blacks. It would make you forget your trouble. Shouting was nourishment enough to help give a despised and oppressed black person enough courage for living at least for another week. Had it not been for Sunday morning 'shoutin' experiences or the mid-week ring shout, black people would have long ago surrendered under the struggle.

The voices of our women have not talked about the shout. Incorporated however, within their stories is the sense of how they have been able to celebrate life and all its offering in spite of the life of deprivation they have led. Unshouted courage is an inaudible voice of inward peace and healing. When each has told their story one cannot be mistaken in the capacity of black women to survive, endure and even

celebrate life under conditions which would have ordinarily driven others to suicide long ago.

Our black women have an unshouted courage which exhibits the quality of steadfastness and fortitude, in the face of formidable oppression. Unshouted courage involves the ability to "hold on to life" against all major oppositions. It is the incentive to facilitate change, to chip away the oppressive structures bit by bit and to celebrate and rename black womens' experience in empowering ways.

Shoutin' is outward, unshouted courage is an unacknowledged inner conviction that keeps ones' appetite whet for freedom. Unshouted courage is Mary Beatrice Kenner discovering that Sonn-Nap-Pack tried to by-pass her blackness, get a patent themselves on her invention and manufacture it without her. It is watching "whiteness" not win. Unshouted courage is Mildred Austin Smith never giving up on her dream of patenting a game that would facilitate boys and girls learning about the connectedness of their personal and general heritage. So even though the patent office and patent attorneys told her that her idea was debunch, she "held on" anyway. She didn't just grin and bear it and leave it alone. She held on believing that one day her dream would become a reality. And it did.

Unshouted courage is Miriam Benjamin reconciling the chaos that she found in the 'House' and 'Senate' of our national government and daring to bring peace and order. How dare she believe that she, a black woman, had anything to offer the United States government and then to have the audacity to bring order to the greatest power in this country. Unshouted courage is Majorie Joyner traveling over a thousand miles on a boat to obtain for herself and others the right and privilege of being able to learn what the world had to offer in regards to hair culture. Unshouted courage is the staying power of black women. It is the ability of black women to find personal fulfillment in the basic push-pull ambivalence of the do-it-yourself-or do-without reality. It's about learning how to grasp the affirmative side of life amidst a system of brutalization and self-aggrandizement.

Black womanhood, through these inventors has shown itself to be more than just a defensive reactions to the often devastating oppressive circumstances of anguish and desperation perpetrated by western male and white supremacy. It's an attitude. An attitude that carries out a pragmatic philosophy of life which refuses to be bound in any manner to what others think she ought to do or think. Beatrice Kenner was not about to allow the United States government to tell her

how to spend her pension money that she drew down when she quite her clerical job because she could not get promoted based on her race. Majorie Joyner refused to define herself as a beauty culturist that was inferior to white beauty culturist. So she fought for the equity of all beauty culturist to take and pass the same examination instead of two dissimilar exams based on "white" perceptions of what one 'ought' to know based on the color of their skin.

Unshouted courage is exemplified in Miriam Benjamin as she journeyed to Washington D.C. to seek a job as a teacher because Boston wasn't ready for black women teachers. It took courage to move steadily and continually toward individuation and personal self-expression. Unshouted courage was refusing to be held from her "calling" by the heinous pressures of a racist, sexist, classist conscious reality.

Throughout the annals of black women's existence in this country, black women have used their creativity to silently carve out 'living space' within the intricate web of multilayered opposition to their "being".

Then lastly the women all seem to exhibit a "quiet grace"- a refusal to become inwardly brutalized. Quiet grace is to not allow one's self to become rippled by the hardships, brutalizations and oppression one finds

themselves in. It has been proven over and over again that black women have been denied their rights as citizens of this country, but they never, never have stopped being involved in a continuous search for equilibrium between the seemly irreconcilable triple oppositions that are upon them.

As each inventor has attempted to search for and find truth in their lives, they have had to do so by looking at the world through their own eyes. The United States government saw a sorry, jobless, black woman; Beatrice Kenner saw a liberated black woman, now truly free to make her own choices. The city of Boston saw a black woman attempting to be more than she could ever be; Miriam Benjamin saw a life full of possibilities in the passing down to the next generation and the next, all she knew about black legacy intertwined with educational pursuits. When Sarah Boone moved to New Haven, with the hopes of opening up more opportunities for her children, a white society just saw 'nother "negro" family going no where and wanting nothing more out of life but to live off us "white folks".

Grace- quiet grace is a dynamic and evolving quality found in black women that forces each black woman to consider new possibilities. Grace- quiet grace has allowed each black woman inventor to infuse

and illuminate a variety of images that lay out at their feet innumerable options of possibilities. Not one of these women has ever hinted that life at its rawest was any more than what it was. Each has taken what life has dealt to them (Kenner, a burned face; Smith, multiple sclerosis; Sarah Boone, a hoard of children most of who died an early death; Benjamin, rejection from the city she knew as home) and faced life squarely, front and center, without reverence or protection from the dominant society.

Each black female inventor has had to develop a pragmatic lifestyle that has had to supersede the elitist womanly attributes of white delicacy often held up as the paradigm of womanhood. Prayer and religious attentiveness has been that common factor. All of our black female inventors were active in their respective churches (Benjamin, African Meeting House and St. Cyprian Episcopal Church; Sarah Boone, Temple Street Congregational Church; Mary Beatrice Kenner and Mildred Austin Smith, Shiloh Baptist Church and Majorie Steward Joyner, Cosmopolitan Community Church.

Quiet grace- faith- the belief that there is a God who has called each to share her gifts from the giver with the world. Each inventor has testified to the importance of truth finding a graceful living in their lives. Each inventor has expressed, or shown how the

power and belief in God has impelled them to continue striving resisting temptations that would keep them from their calling. They have heard the higher calling and have used it as a guiding force to help themselves find meaning in their lives and to create something where nothing was before.

CHAPTER VI

A BIOGRAPHICAL INTERDISCIPLINARY CURRICULUM GUIDE

A contemporary educational journey

In each of the biographies in chapter four, the women have each come into an understanding of who they are in the context of the real world. What better way to facilitate individuation and education than to take youngsters through the labyrinth of their culture by way of others biographies.

To date, schools have been the repositories of reinforcing an ideology that civilization began with European culture and that black people were not discovered until whites discovered them. Biography allows "blackness" to speak for itself; to be born before white discovery and to allow each person to have a story.

The five biographical sketches that will be presented under our new educational paradigm has evolved from the lived herstories of black females. Utilization of each of these stories means rendering his-story, usually referring to the male gender and/or white (european) race a fraction, a small fraction of the whole truth. These biographies by and about black women have been written so that black female students

will feel the connectedness of their lives with the lives of the women they will be exploring.

It is important that one understands the power in naming black female inventors as the most important road to a wholesome education for black females. For once schools shall then be used for inspiring black youngsters to "know thyself" as opposed to being used as the traditional social agent to promote the interest of white america.

A description of the curriculum

The curriculum as written is a biographical interdisciplinary curriculum. This model was chosen for it allows one to integrate educational curriculum with a youngsters real lived world. Traditionally our female children are deprived of opportunities to use their experiences to make links between their world and the school world especially if that school world is not an afro-centric one. The curriculum as presented here seeks to erradicate the former misonomer and facillitate relevant afro-centric curriculum for black female students.

It is believed that this paradigmatic interdisciplinary biographical curriculum is the best way to teach our youngsters for it allows them to appreciate black herstories, it encourages

investigation of their family herstories and traditions, it alleviate current models of miseducation and it will, I believe educate each black female child toward "knowing self".

The unit following has several components. It begins with a picture of the inventor. This is then followed by a reduced biographical sketch of the inventor (however, one may choose to use the entire biographical sketch, found in chapter four (4)). A lesson in vocabulary, reading and writing, math, social studies, and science then concludes the unit. Each of the lessons when possible are afrocentrically constructed and utilize african or african-american models as examples. The sample curriculum that follows is not meant to be a one that is etched in stone. It is set forth as an example of what one might possibly construct for youngsters utilizing black female as their focus point. Remember this is only a sample, please feel free to make modifications along the way.

I'LL TELL THEM OF



Mildred Austin Smith

Figure 17 Mildred Austin Smith

Inventor

Mildred Austin Smith was born Mildred Davidson, to proud parents Sidney N. and Nelly Saxon Davidson, in Charolette North Carolina. She was the youngest of five children, two boys and three girls. When Mildred was nearly six years old, her parents decided to leave Charolette, North Carolina and move to Washington D.C., where they hoped to provide better educational experiences for their children. And the children did do well. All the children finished high school, but Mildred alone took advantage of the prolific higher educational experiences abounding in the Washington area.

She was a member of the Howard University School of Music for nearly 2 1/2 years. She could no longer finish her degree program because she contracted multiple sclerosis. However, before that time, she had ample time to sing and share in numerous performances with the National Negro Opera Company. Not only was Mildred a good singer, but she was an accomplished musician whose love was to play the piano before her disease stuck her. For years she played at Shiloh Baptist Church on 9th and P st. She usually played for the Sunday school at the Presbyterian church where she raised her two children.

Mildred invented a game called 'treedition'. This game is a geneology game used to teach persons about their family relationships. Mildred tried to obtain a patent for this game. The first time that she tried to patent it, the patent office told her that the game wasn't valuable and therefore not worth patenting. Somewhat discouraged, Mildred allowed the idea to drop for a while. However, while recuperating from a serious 'bout with her disease, she once again decided to tackle the problem of having her idea patented. This time with much persistence she was able to obtain a patent for it. Not able to find a manufacture for the game, Mildred borrowed about \$5,000 from her sister, Mary, so that she could have the game packaged and marketed. Although, Mildred has done well in selling her game, her desire is to have one of the game companies to manufacture it for her, with the expectation that it would get into the hands of a larger market.

Mildred comes by her gift of inventiveness, honesty. Her sister Mary, is also an inventor. Mary has received a patent from at least six various articles ranging from a toilet paper holder to a carrier attachment for invalid walkers. But Mildred's familiar ties to inventions also extends to her father, who was known for his many inventions. Sidney Davidson, according to his daughter, used to spend many

Davidson, according to his daughter, used to spend many hours drawing and making models of his inventions. Mildred remembers spending many hours looking at his drawings and trying to make sense out of them herself. Sidney Davidson took out a patent for a pants presser. He wanted to manufacture the pants presser, but didn't have the money to do so. When he asked his six brothers to help him, they thought he was silly and refused. Finally, he sold his pants presser for a measly \$34,000. His window washer invention didn't fare as well. This invention had a 2" wide brush on one end and a long handle with a bulb on the other. When you pressed the bulb, it sprayed water on the window, then you used the other side, which was rubber to wipe the water away.

Sidney made this invention to make his job for the Pennsylvania railroad easier. By the time he gathered enough money to patent his invention, it had already been patented by the Pennsylvania railroad.

Mildred Austin Smith's grandfather on her mother's side was Robert Phroneverger. Robert was a self taught man, who raised 12 children. Many of his working years were spent working the fields in North Carolina. Later in life he worked in the Geo-Physical lab in Washington D.C. It was during this time that he invented a light switch for trains. Not knowing how to protect his invention it like many inventions by black people, was

stolen and consequently manufactured by the company that he worked for.

Mildred Austin Smith lives in Washington D.C. She is in a wheelchair, but she continues her creative talents by running a flower shop for the Shiloh Baptist Church, where her son currently serves as assistant pastor.

Vocabulary

WORDS WE USE WHEN LEARNING ABOUT OUR FAMILY TREE

DIRECTIONS: Use the following words to fill in the puzzle.

- Ananse
- century
- hieroglyphics
- membranophone
- perishable
- spiderman
- web
- antiquity
- classified
- instrument
- mirlitons
- roots
- symbol
- wove
- bargain
- Egypt
- membrane
- pedigree
- skin vessel

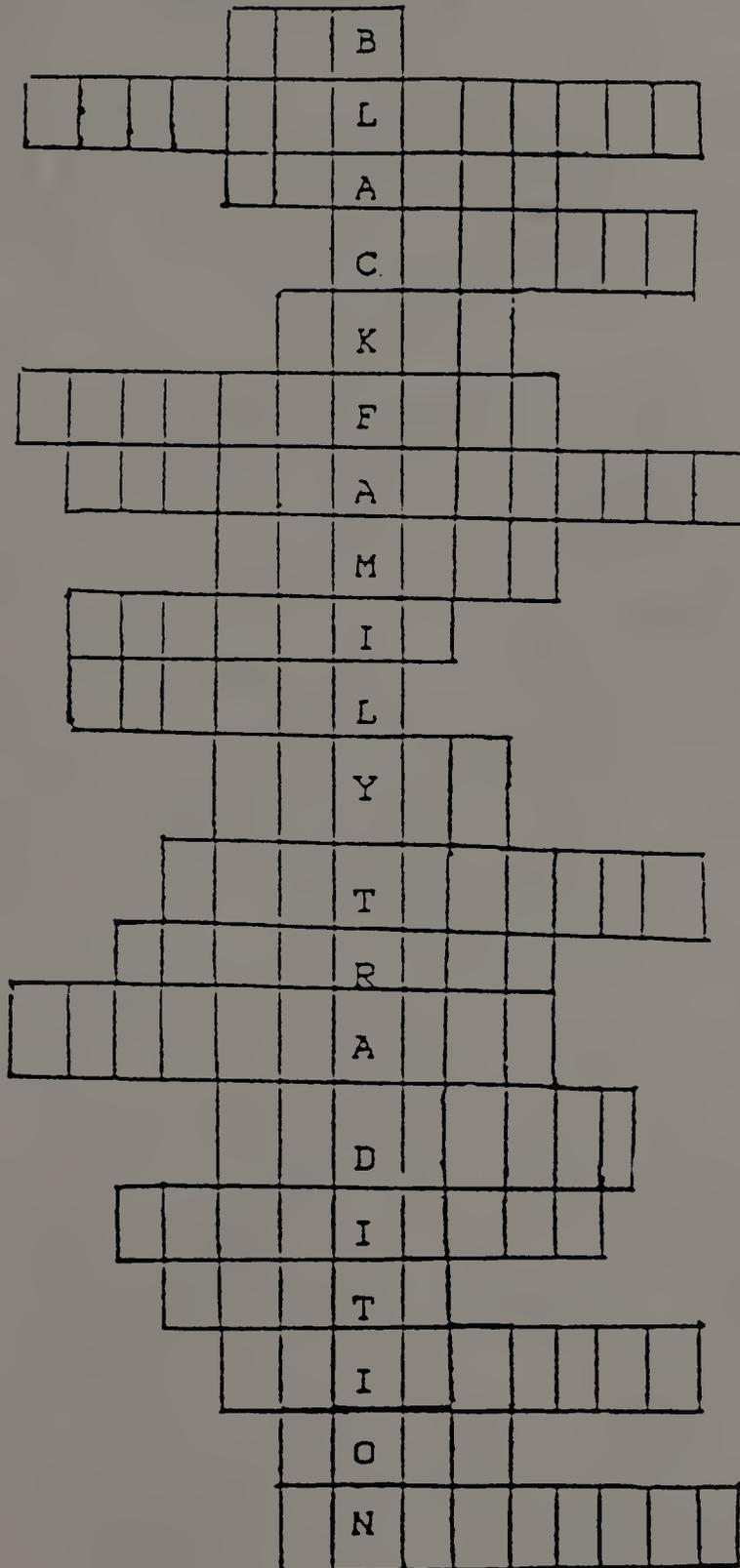


Figure 18 Crossword puzzle

(answer sheet)

VOCABULARY

WORDS WE USE WHEN LEARNING ABOUT OUR FAMILY TREE

DIRECTIONS: Use the following words to fill in the puzzle.

- Ananse
- century
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- instrument
- mirlitons
- roots
- symbol
- wave
- bargain
- Egypt
- membrane
- pedigree
- skin
- vessel

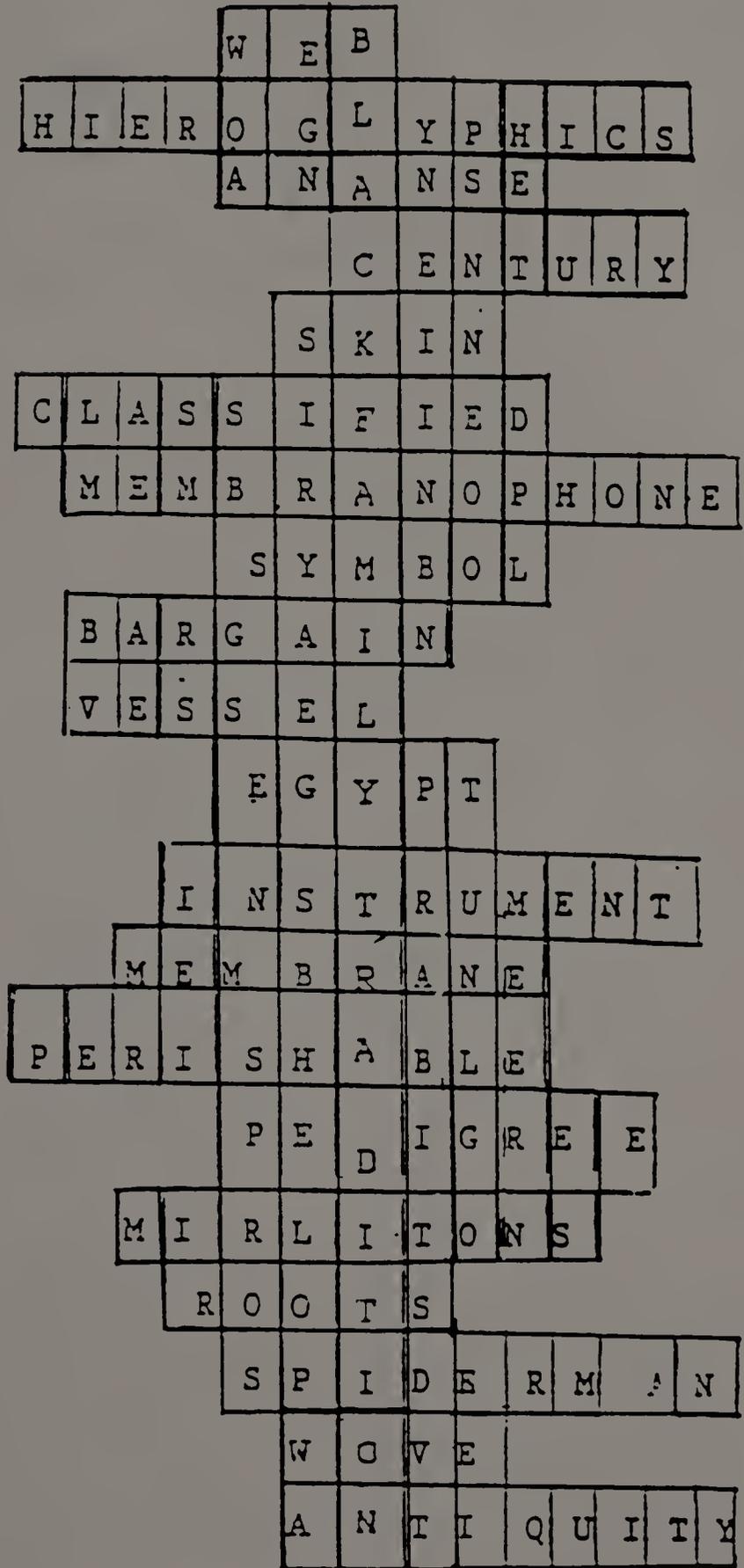


Figure 19 Crossword puzzle answer sheet

Writing

Folktales and storytelling have always been at the heart of African and Afro-American life. In African literature "Kwekw Ananse", more popularly known as the spider is one of the most popular and familiar of all folktales characters.

ACTIVITIES:

1. Using one of the following books or any other of your choice, prepare to retell one of your favorite folktales.

Lester, Julius. Black Fables, Grove Press, NY.

Aesop. Aesop Fables, Grosett: N.Y. 1947.

Hamilton, Virginia. The people Could Fly, N.Y: Alfred A. Knopf, 1985.

Why Mosquitoes Buzz in Peoples's Ear, Dial Press: NY, 1977.

Sherlock, Philip M. Anansi the Spider Man, NY:Thomas Y. Crowell Co., 1954.

Morrison, Toni. The Bluest Eye, NY, Washington Sq. Press, 1970.

Dorson, Richard. American Negro Folktales, Fawcett Premier book, 1956

Hughes, Lanston & Bontemps, Arna (eds.). The Book of Negro Folklore, Dodd, Mead & Co. NY, 1958.

Dorson, Richard, African Folklore, Indiana Univ. Press,
Bloomington, 1972.

Harris, Joel Chandler. Uncle Remus, Schocken Books, NY,
1965.

Jordan, A.C. Tales from Southern Africa, Univ. of
California, Berkeley, 1973.

Carpenter, Frances, African Wonder Tales, Doubleday,
NY, 1963.

2. Using the Explore- A- Story, computer program
Ananse the Spider, write your own spider tale.
Make sure that you illustrate your story.
3. Select an animal of your choice. Write a story
that teaches a lesson or has a moral.
4. Use your map of Africa to identify and name each of
the countries on the continent. Then identify the
countries that some of your favorite african
folktales come from.

Outline for story

1. IDENTIFY THE CHARACTERS IN YOUR STORY.

A. _____

B. _____

C. _____

D. _____

E. _____

2. WHERE DOES THIS STORY TAKE PLACE?

3. WHAT HAPPENS IN YOUR STORY?

A. _____

B. _____

C. _____

D. _____

4. HOW DOES YOUR STORY END?

Math

Knowing the "African" contributions and traditions of Afro-Americans is most important. An ancient part of this "tradition" is telling time. Ancient Egyptians invented telling time. Traditionally, Africans used many different ways to tell time. They used the sun, shadows, stars and even water clocks to keep track of the time. Today we are going to study the water clock. The water clock was shaped like pieces of pottery. These bowls had markings on them to help people tell time, as accurately as possible. People would fill the water pot every morning. As the water ran out of the pot through a small hole in the bottom, the markings would be exposed and one could "tell time" by reading the markings.

ACTIVITIES:

1. List as many different ways and instruments as you can that have been used to tell time.
2. Using the directions given, construct your own water clock.

EGYPTIAN WATER CLOCK



Model for your water clock

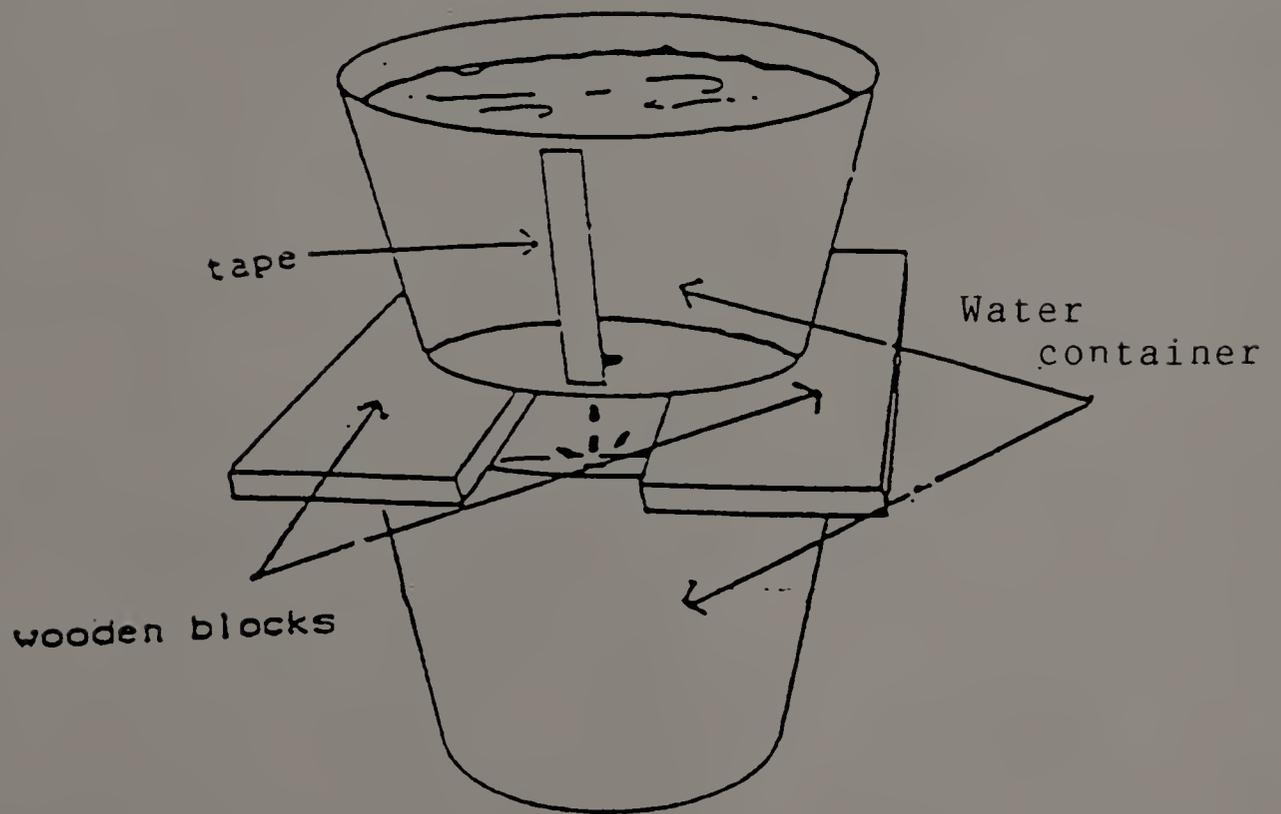


Figure 20 Egyptian water clock

Directions for making a water clock

Items needed:

a picture of an ancient water clock

a picture of a modern water clock

3 plastic containers

tape

a sharp object that you can make a hole with

a wood block

1. First select a partner.
2. Following the picture, place 2 blocks on one of the plastic containers.
3. Balance the other container on top of the blocks.
4. Using your sharp object, make a small hole in the bottom of the top container.
5. Fill your third container with water. Set it aside for now.
6. Put a strip of masking tape on the outside of the top container to mark measurements.
7. Decide the number of seconds you will use for your time scale (10 sec., 20 sec., etc.)
8. One of you must be the timer, the other can be the recorder. When the timer has allowed the time selected (10 sec., 20 sec., etc.) to pass, the marker puts a small mark on the masking tape and continues until the water is gone.

9. When the top container is empty, transfer your markings from the outside of your cup to the inside.
10. Repeat the experiment. See if you get the same results this time. If not, why not?
11. Now add up the total time in seconds that it took your water clock to empty itself. Convert these seconds into minutes (remember that 60 sec = 1 minute).

(Used from Richards, Roy. Time. New York: Macdonald Educational, 1972.)

Social Studies

Alex Haley, in his book, *Roots*, led us, once again to understanding the importance of knowing our history, our roots, our family tree. However, it has always been a part of our African heritage to know "from whence we have come".

Mrs. Mildred Smith understood the importance of knowing our heritage and family tradition, therefore she invented the game "treeation".

ACTIVITIES:

1. Take the family tree and fill in as many members of your family as you can. Ask your parents for help if you need to. It would be nice if you knew when and where each person was born.

2. Play "Treeation"

FAMILY TREE

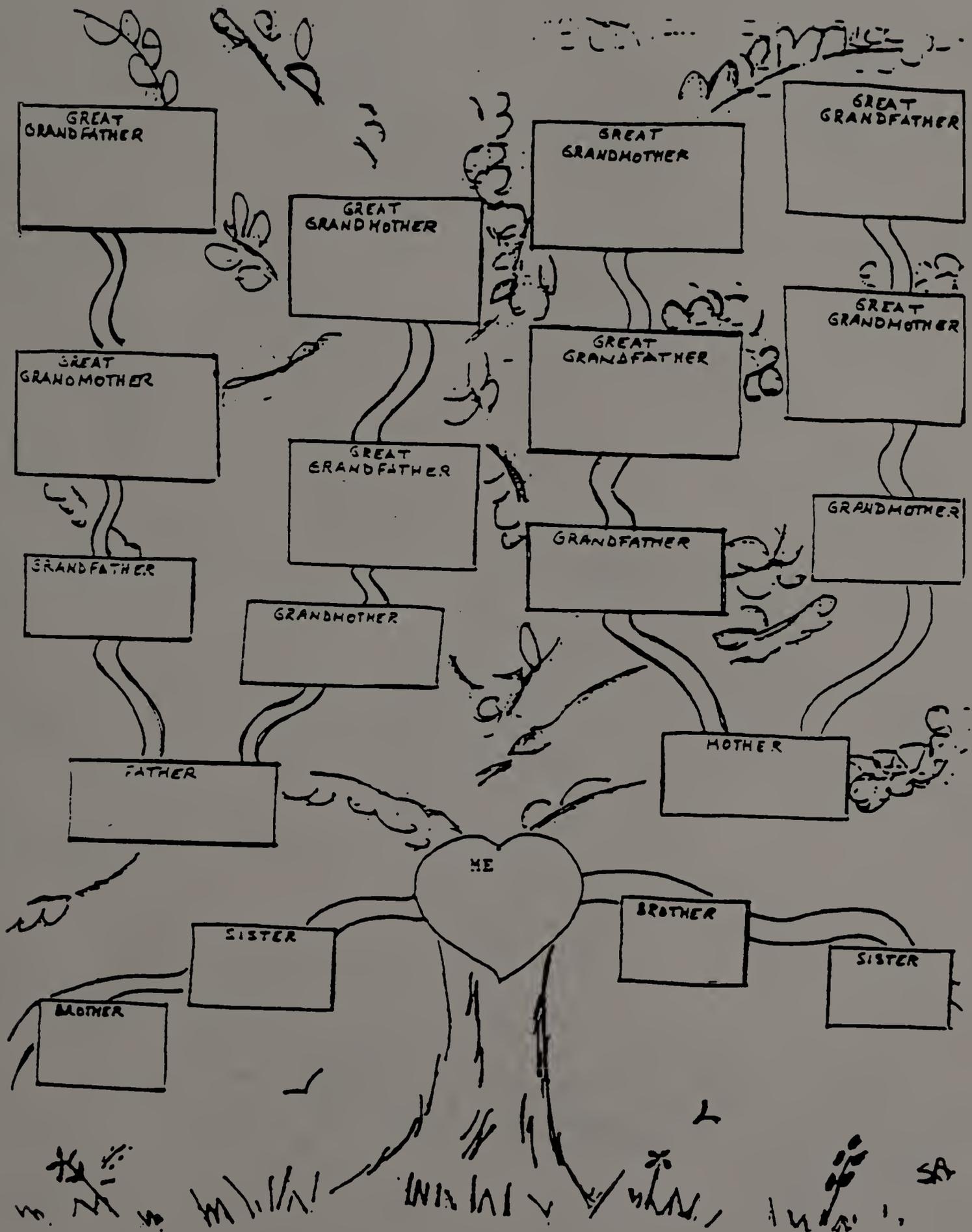


Figure 21 Family tree

Science

Music is a traditional part of african culture. Music, of course, is defined as a great many musical sounds arranged in such a way, that the sounds are pleasing to hear. This musical sound is produced by something vibrating. Your vocal cords in your throat vibrate and help you to make sounds so that you can sing or talk. Guitars make music through the vibrations of their strings and the air inside a trumpet vibrates and therefore produced pleasing sounds.

For drums, its all in the drumhead. When one hits , taps or strikes the drum head, the movement makes the drumhead vibrate and thence the sounds we get.

Evidence shows that drums have been in existence in africa for over 4,000 years. Due to the perishable materials that drums are usually made from, we have come to rely upon the stories that cave art has shared with us. Like us, drums also belong to a family. This family is called the "membranophones". Specifically membranophones are instruments in which sound is made by the vibration of a skin. The membranophone family tree is divided into two main branches: drums and mirlitons. The drums branch into tubular vessel and frame drums, each drum is classified by its body shape. They can be cylindrical, conical, barrel, waisted, hourglass goblet, footed and long.

Mirlitons are the cousins of the membranophones.

Mirlitons are instruments with membranes that are usually activated by singing or blowing against it. The paper and comb kazoo and the eunuch flute are examples of the mirlitons. The vibrating membrane is often waxed or tissue paper. Place either of these items over a comb and holding it in front of your lips and then just hum or sing into it. The vibrations from your mouth will shake the paper and make a razy sound.

AFRICAN DRUMS

The DUNDUN drum, also called the IVA SLU (mother drum) is most likely the most important of all the african drums. This drum is used for talking. It is able to reproduce syllables and words that have soft endings. If it is used in a musical presentation the DUNDUN leads the music and dictates the form and pace of the dance. Talking drums are used for traditional dances, but are also used in modern Nigerian music.

Before Africans were brought, by the slave trade to the Americas, the talking drum was used to send friendly messages and important messages to persons in the tribe who lived far distances from the main group of people.

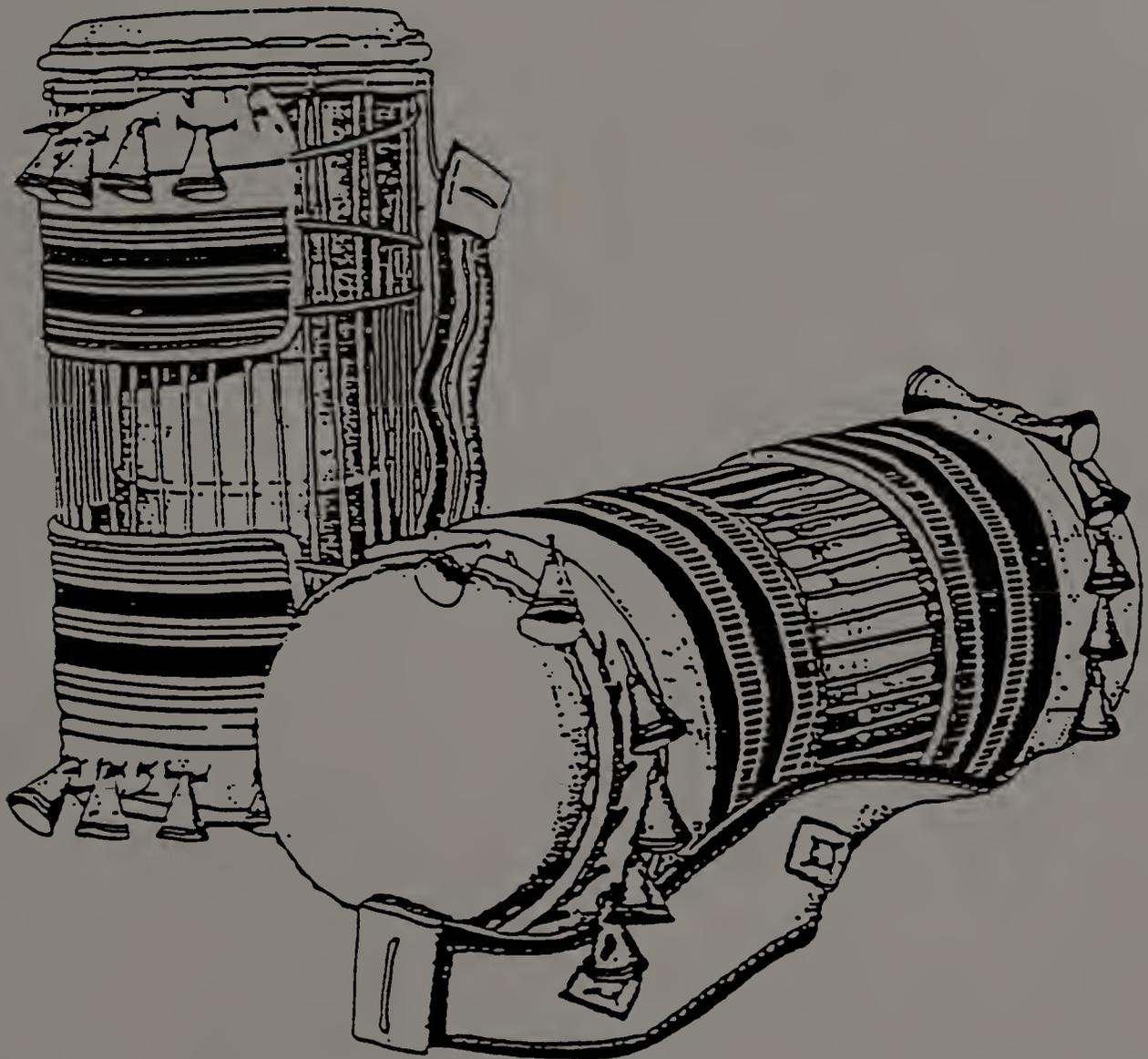


Figure 22 African dundun drums

AFRICAN DRUMS

The Jun Jun drum is a metal or wooden barrel drum that has both of its ends removed. Once the ends have been removed, each is then replaced with goat or cow skin. The Jun Jun drum is then played with a curved stick. The Jun Jun drums are the largest drums from the Mali Empire area in West Africa. Sometimes people call them the 'Bottom or Bass drum'.

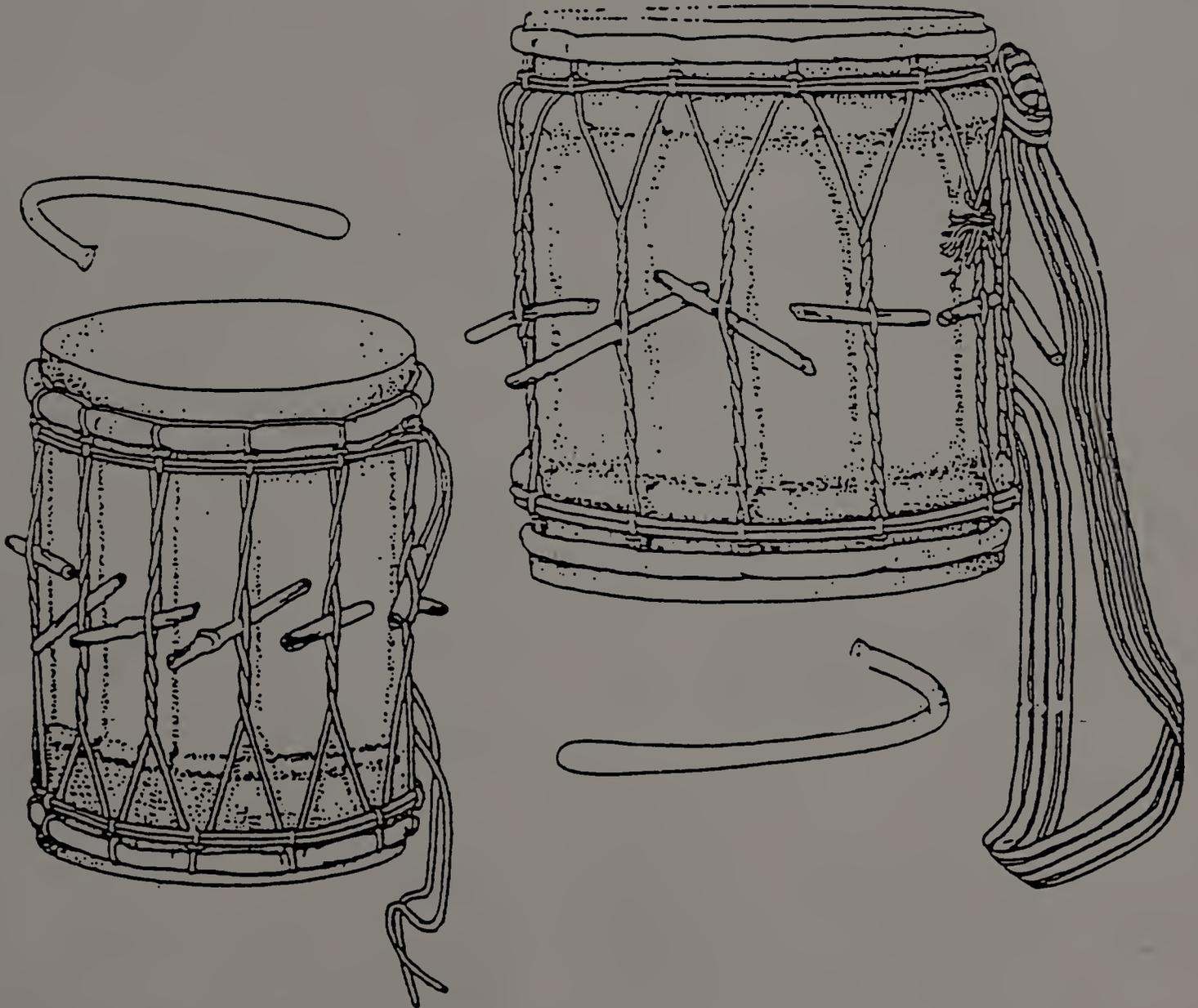


Figure 23 African jun jun drums

ACTIVITIES: LET'S MAKE A DRUM

NIGERIAN DRUM

Things needed:

a gallon ice cream container	large balloon or
4-1/4" thick pieces of wood	inflatable beach toy
4- tacks	tape
glue	wallpaper paste
wooden embroidery hoop	newspaper
pencil	brown paint
1/2 styrofoam ball	

directions:

Cut four pieces of 1/4" thick wood in the size shown in fig. 1. Push four tacks through bottom of container, add glue to wood pieces, and attach to bottom by pushing into tacks (figure 2). Add glue to other end of wood pieces, push tacks up through lid of container.

Take and stretch your balloon over the inner ring of embroidery hoop. Then slip outside hoop over inner ring to hold taut (figure 3). Tape your drumhead to top of container (Figure 4). Tape on some crumples paper around center of drum to make middle bulge. Then cover with strips of paper dipped in wallpaper paste. Cover edge of hoop to help hold in position, but don't get paste on the rubber (figure 5).

Finish with papler-mache, adding whatever designs you like. This one had geometric designs and a symbol on each side. When the paste is dry, paint your drum brown.

CHAPTER VII

SUMMARY AND DISCUSSION

Discussion

An afro-american proverb says that as the woman goes- so goes the nation, but if you educate a woman you educate a nation. Afro- american women have a long way to go to get educational equalization and so does the african-american nation.

Thirty percent of all school age black females drop-out of school before completing the 12th grade. The ones who do drop out can't read, write or add. Statistics have shown that black females continue to hold the highest number of blue collar entry level jobs and continue to receive next to the lowest pay for work done. Black women are misunderstood, misrepresented by others (and sometimes themselves), miseducated and underemployed.

Black females are underrepresented in professional science and technology careers and are thereby relegated to low paying jobs and poor self-esteem. Black females lack of choosing scientific careers is cause by them not being expose to appropriate black

female scientist and inventor role models during their preparatory school years.

There are, of course, a variety of antecedents that have facilitated this state of affairs. One must especially ponder the disturbing fact that the differential representation between black females and persons of other racial and gender groups in the scientific community is presaged by educational patterns at the elementary and secondary levels.

Schools simply do not offer any role models for black females children to bond with and use as role models. Could it be that schools either don't believe that such models exist or is it simply that they have not taken time to gather, analyze and write into the curriculum black female scientist and inventors?

The object of this study was to collect, analyze and write as curricula biographies emphasizing the lives of black female inventors. An initial search on the topic gave no leads as to where one might locate this type of information. Searches run on ERIC and searches through biographical and scientific references left the category totally blank.

Finally, a reference book by James Baker, a historical writer, listed three black women inventors among hundred of 19th and 20th century black people. Two out of the three women were researched and used in

the study. Further investigation at the United States Patent office in Washington D.C. led the researcher to several other women, of which only 3 are being used. These three women were chosen because of their accessibility. Of the three interviewers, one lived in Chicago, one in Washington D.C. and the other in Williamsburg, Virginia.

Initially, it was decided that the interviews should last 2 hours. But in no case did this hold true. Each of the women insisted upon sharing with the researcher until they had completed their thoughts. That meant seeing all three on at least two different occasions, engaging in a telephone conversation with one for a short third session and spending the night with another. The interviewees were delighted to share their stories, and their memorabilia, hence the additional time invested.

Several methods for gathering data were used. The hardest task one can possibly have is to attempt to research the lives of black women. During the recent past, no one thought that black women were very important and therefore saw no reason to save information on them. Also, when women in general married, unless you knew to whom they were united, there is no scientific way to find them after marriage, unless you stumble upon it accidentally. Miriam

Benjamin and Sarah Boone were two inventors during the 1880-1890's that put historical research to the test.

Many sources were investigated and researched to obtain information on both women. Chicago, Illinois; Washington, D.C; Charolette and New Bern, North Carolina and Boston, Massachusetts were all cities steeped in historical documentation for this study. Traditional sources like the United States Census, city directories, black newspapers and city halls were found to be rich repositories for information gatherings. A trip to court in New Haven, gave access to birth certificates, a trip to Graceland Cemetery, Chicago produced birth and death records for family members, who otherwise would have laid resting eternally. The newspapers probably had the riches account of personal history for they tabulated the daily activities of the women.

The first known black women inventor was Ellen Eglin. Ellen lived in Washington D.C. in the 1890's. She was a member of the Women's National Industrial League and was the inventor of the first clothes-wringer. Ellen sold her invention for the total sum of \$18 because she knew that white women would be unwilling to buy the wringer from a person of color. Later on she planned to invent something else and actually get a patent for it in her own name, the

name of a black women. And everyone shall know that it was invented by me, was her strongest belief.

Ellen's story raises some critical questions. First, one would need to know what did Ellen have that allowed her to continue to invent even when she knew that others despised her very person and were not willing to support her work? Secondly, what are the characteristics that one must have to sustain a life steeped in racism, sexism and classism. And thirdly, what can black women do to protect themselves from the hardships and brutalizations that travels with triple jeopardy?

Theme one:

Black woman invent or become scientist in the midst of adversity in order to preserve her INVISIBLE DIGNITY.

Everyone desire to live in dignity. When Ellen Eglin thought about the good that she had brought to this world though her invention she felt compelled to share it. It was her choice how to do that. Each of our black women have their stories to tell about how the world attempted to squeeze all dignity and self-worth from their being. Kenner understood the phenomenon of whites also refusing to manufacture her product because she was black. Joyner knew

dehumanization when the door of a beauty school was slammed in her face. Smith had known little but male domination and even in today's classrooms black females children who raise their hands, yet are ignored because black female children aren't suppose to know the answer have also felt the pain that penetrates ones entire being when being ignored tells you all you need to know about yourself.

Proper education means allowing youngsters to dwell within themselves (educate) and find truth. Black females are having a difficult time finding that truth in american classrooms. However, the potential for discovering what can be, very well may lie in the annals of black female biographies. For these women have also suffer the pain and degradation that our youngsters are also facing but often don't know how to address.

Ingesting truths that can help one maintain their dignity is most important. Black inventors seldom if ever share at the moment of occurrences, the truth of their feelings. They have learn to indivisibly handle their scares and turn what has been said of them, or to them into something positive for themselves in order to save their inner being.

Black female children don't need to drop out of school they need to be taught the lessons shared by the

our model inventors and learn how to save their own self-worth and thereby saving and/or raising their own self-esteem.

Each inventor's story has within it the secret for living and being in spite of. To learn this lesson well is to be educated, afro-centricly.

Theme two

One of the characteristics that black women must have in order to sustain a life steeped in racism, sexism and classism is unshouted courage.

Living a life steeped in racial slurs, racial pitfalls, bias fed through sexist precepts and shuffling through trails of tangeables that depict your inability to move from poverty to wealth was the story lived by all of the inventors. Sometimes the women tried to skirt the issue, and sometimes they chose not to. Each all of them came from poor families. Yet each through their bull-dog-tenacity were able to move from poverty to middleclass status. And that was no easy job. In each story the women demonstrated their personal strength as they move through their lives surviving, and enduring as best they could whatever life handed them.

Miriam Benjamin demonstrated such courage as she walked into the United States congress daring to bring

reconciliation and order into a chaotic situation. It took unshouted courage to have the audacity to think that she a black woman could add something important to this world. Majorie Joyner, a beautician traveled over a thousand miles with a group of one hundred fifty (150) black beauticians when american beauty schools refused to teach black beauticians modern beauty techniques.

Unshouted courage is what helps black women get over, move on, by-pass racial, sexist or classist acts. It's called unshouted for when you watch the women, unless you really knew one, you would have no idea of what was facilitating their wholeness and sense of personal fulfillment. You can't hear it, and you certainly can't see it. But if you stay in their presence long enough you know that something is there.

Unshouted courage is an attitude. Miriam Benjamin, inventor of the signal and gong chair, had an attitude. She was determined beyond a shadow of a doubt that she was going to be a teacher if it were the last thing that she ever did. It took courage to move toward individuation as she left home, mother, family and everything that was familiar to her to journey to a new land, a new place where she could give substance to her calling.

Black female children need to hear the stories. They need to explore with others what it means to be courageous, to define ones self and move toward their own individuation. Sometimes, even your parents can't help, sometimes one must walk your journey alone-unshouted. Unshouted- carving out living space within the intricate web of multilayered opportunities of your being. Black female children will be expose to this life's position as they explore the intricate tunnels interdisciplinarily of the inventors lives. They too must absolutely learn to make this same walk.

Theme three:

In order for black females to protect themselves from the heinous pressures of triple jeopardy each is encouraged to develop quiet grace for therein lies all possibilities.

Quiet grace is the ability to intult, seek out the not yet seen possibilities of your future and move toward your goal. Black women have always had to have a different pair of eyes. Looking at the world through speckled colored glasses only taints and dulls that which you see. You do have a choice. One can leave on their rose colored glasses and allow someone else to interpret the world around you or you can take off and

throw away those glasses, clear up your perception and look at the world through your own eyes.

Black females absolutely must learn to define their own reality. They cannot allow the world to tell them, who they are, whose they are or where they are going. The world (school) has not yet learn to tell black female children the truth. However, when Sarah Boone moved from New Bern to New Haven, she understood that to open up possibilities for her family she would have to change her glasses. Rose colored glasses would only show her that white people only saw another negro family going nowhere and wanting nothing more out to life but to live off us. Miriam had to take off those glasses and see a new city, new relationships, new opportunities. In a little more than a year after their move, she and her family were considered well off and they were buying their own home. Mildred Smith never gave up her dream of presenting publicly her game even though white patent attorneys told her the game was no good. Sarah Boone invented a ironing board that allowed her to make a living for herself and her daughter when person didn't believe in her dream.

We must tell our youth that they can take whatever life has dealt them, face it squarely, front and center and make it into whatever you can image it ought to be for you.

With quiet grace comes a belief that there is a God. All of the women were strong church-goers and God worshippers. Each understood that that which they had to offer to the world was a gift from God. This theme was always mentioned. White society tells us that we cannot instill in our children a knowledge of a higher power in our lives, especially when the youngsters are in school. Now this researcher is not advocating teaching religion in school, although it certainly couldn't hurt, but it becomes a necessity in the life of all black female children that they learn to response to a higher power in themselves.

As you ponder these themes, it needs to be said that none of them replace or supplement equitable education issues for black children, yet each will help the youngsters obtain a maximum level of self-fulfillment.

Summary

The findings supported by this study were multifaced. It was not the design of the study itself to draw the upcoming conclusions. However, during the course of the study, it became evident that there were more issues to be uncovered, than the researcher initially imagined. Several findings are significant for advancing our knowledge of enhancing the opportunities of educating black female children in american classrooms. The findings were as follows:

1. This study has revealed a group of black women who have historically had a strong commitment to science and inventive technology in america.
2. History reveals systematic prejudice and patterns of paternalism and/or exclusion that are clearly racist and sexist when attempting to educate black female children.
3. Conspicuous by its absence, however is any discussion of black females as inventors prior to Madame Walker in 1916. It is as though they never existed.

4. Black females historically have not relied on white support of themselves in their science and technology careers.
5. Black women view the denial of their opportunities as a greater ill than a mere educational inequity. They saw it as a most damaging political statement being made by the state and the nation.

Limitation of the study

This study used a combination of historical methodology. As a result of using a combined approach, the study possesses both the strengths and weakness inherent to each.

The five subjects used in this sample are very limited in number. Two out of the five are deceased and could not give voice to their own being. The others although living are all over the age of 70. No young black females inventors were available. The women lived in different parts of the country moving from the mid-west to the south-eastern states. All the women have received at least one patent for their inventions with Mary Beatrice Kenner topping the list with five and one more in the process of being patented.

The use of semi-structured and non-structured interviews created inherent advantages as well as disadvantages . The first interview was semi-structured, while number two and three were more non-structured. The advantages to this approach was that a degree of standardized information was obtained from each respondent in the early stages of interviewing and the researcher was able to characterize each respondent from the outset. The later non-structured approaches invited the inventors to convey personal experiences and to express their own perceptions of their lived experiences. The focus of the interviews were not on controlling some kind of variable, but on understanding the intended meaning of what was communicated.

The inherent advantage to these personal interviews, was the ability of the researcher to employ interviewing techniques to facilitate the collection of data.

The potential for personal bias was present, even though the researcher made every effort to conduct the interviews, and respond in a consistent manner. Probing questions were asked when necessary, to more fully explain the perceptions and experiences presented in the interviews. As a result the interpersonal

process may be viewed as an asset as well as a liability to phenomenological research.

Recommendation for further study

As a result of investigating why black females are absent from the world of science and technology, a number of related research studies could be considered. Suggestions for further study include the following:

1. More research is needed on whether or not black girls continue to receive inequitable educational services in american public schools.
2. This study should be replicated utilizing different black females inventors of varying age groups and from different parts of the United States.
3. Strategies must be identified and tested which will help black female students to be introduced to a variety of carefree choices.
4. Strategies must be identified to ensure that education for black females are neither compromised nor truncated.
5. A comprehensive science and technology career curriculum guide emphasizing the accomplishments of black female inventors and scientist be developed and given priority for

usages, especially for the middle school grades.

APPENDIX A
COVER LETTER

Date:

Name
Address

My name is Arlene Hambrick. I am pursuing a doctorate degree at the University of Massachusetts at Amherst. I am working on my doctoral disseratation which focuses on black female scientist and inventors.

I am soliciting your help as a participant in an interview study. This study is designed to write biographies on black american females who are scientist or inventors. As a participant, you will be asked to take part in an in-person or telephone interview. These interviews will take place at a time and place convenient for you.

The interviews will be taped and later transcribed. My goal is to analyze the information from the interviews and use them to (1) write a short biographical profile of your life as an inventor and (2) analyze the factors that led you to become an inventor.

I will be in touch with you to arrange a time for the interview. If you have any questions, please feel free to call me during the daytime at (617), or evening at (508) 226-4255.

Thank you for you time. I look forward to hearing from you.

Sincerely,

Arlene Hambrick

APPENDIX B
CONSENT FORM

My name is Arlene Hambrick, and I am a graduate student in the Department of Education at the University of Massachusetts in Amherst. I am doing research which will be based on interviews with black female scientist and inventors.

You are being asked to participate in this study because of your invention. I will conduct an interview with you about your work as an inventor. The interviews will be audio taped (if completed in person) and transcribed by myself later. My goal is to analyze and write a historical biographical profile on you. I plan to use your biographical profile in several ways:

- (a) my dissertation,
- (b) journal articles
- (c) presentations to professional groups
- (d) other purposes related to my work as a teacher educator.

While consenting at this time to participate in these interviews, you may at any time withdraw from the actual interview process.

If you need to contact me at any time, please call me at my daytime number (617) 524-2020 or my evening number (508) 226-4255.

In signing this form, you are agreeing to the use of materials from your interview. If I wish to use the materials from your interview in any ways not consistent with what is stated above, I will contact you to explain and request your further consent.

In signing this form you also are assuring me that you will make no financial claims for the use of the materials from your interview.

=====

I, _____, have read the above statement and agree to be interviewed under the conditions stated above.

Signature of participant

Date

Interviewer

APPENDIX C
DEMOGRAPHIC DATA FORM

NAME _____
FIRST MIDDLE MAIDEN LAST

BIRTHDATE _____
MONTH DAY YEAR

BIRTHPLACE _____
CITY STATE COUNTRY

PARENTS _____
MOTHER

_____ FATHER

SIBLINGS
_____ FIRST MIDDLE LAST

SPOUSE _____
FIRST MIDDLE LAST

BIRTHPLACE _____

BIRTHDATE _____

CHILDREN _____
FIRST MIDDLE LAST

APPENDIX D
INTERVIEW GUIDE

1. Describe your invention.
2. What led you to make this invention?
3. How did your family acknowledge your invention?
4. Have you been able to profit from your invention?
Why/why not?
5. Who has been your role model for becoming an inventor (if anybody)?
7. Would you encourage black females to become inventors? Why/why not?
8. What role did your elementary and secondary education play in your becoming an inventor?
9. What advice would you offer black female about careers in science ?

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