



Prof Dr. Donna Pido is an American Anthropologist with several decades of experience in product and graphic design as well as formative research for health education campaigns. She has designed collections for various art galleries in the US and for African Heritage in Kenya. Among Donna's credits are the period beaded ornaments worn in the Hollywood film, *Out of Africa*. She has mentored several successful art jewelers and has worked closely with Maasai women's groups in developing their designs. Her publications, dealing mostly with analysis of East African material culture, can be found on [Academia.edu](https://www.academia.edu/). Her experimental jewelry was featured in the *Kenya Arts Diary* of 2012. At present she divides her time between teaching in the Department of Design and Creative Media of the Technical University of Kenya and research on archaeological materials in the National Museum of Kenya, both in Nairobi. She is an active member of the Arts Council of the African Studies Association (US), the Kenya Quilt Guild and the Kenya Embroiderers Guild.

SOCIAL RANKING, SEXISM AND EMBELLISHMENT NEEDLEWORK IN EDUCATION AND THE ECONOMY

Prof Donna Pido, Technical University of Kenya

Abstract

This paper brings together a number of historical facts and trends in explaining why the things that are done by hand to decorate fiber objects of personal, and domestic and institutional use are largely ignored in higher education and, where they are recognized, are given low value and/or are associated primarily with women. The neglect and disdain heaped on women's embellishment crafts has been an entry point into a study of the complex historical, intellectual, economic and social factors that place these pursuits in a deficit position in the worlds of design and higher education.

Keywords: handwork, multiple intelligences, sexism, micro industries, national economy, women's work, stitching

Introduction

We designers like to think of our discipline as all encompassing and highly eclectic in terms of the materials, tools and processes we use in achieving our intellectual and practical goals. We regularly refer to Design Methodology and the Design Perspective as points from which we can develop creative and innovative solutions to an infinite number of challenges. We can also examine the form, the positions and roles of some of our products in and within our cultures, societies and national economies.

One such category of products spans most of human history and all cultures that we know of. This is the fiber or thread- based embellishment crafts that involve hand, needle and textiles either as a foundation, a component or the end product. We admire our neighbor's doily draped sitting room, the lace trim on the altar at church, the embroidered edge of a table cloth or a collar, yet we seldom ask how these beautiful things came into existence. We know instantly that a piece of lace is Belgian, the embroidery is Hungarian or the beaded handbag Maasai.



1. A Dutch or Belgian lace maker painted by Vermeer in the 1600s

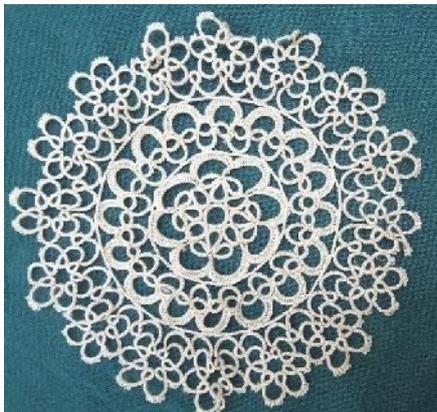


2. Hungarian embroidery found in a second hand clothing market Nairobi, Private collection, DP Photo



2. A beaded skin handbag for a Maasai bride. Private collection, DP Photo

We seldom realize that the cotton doily and the Irish crochet collar were made in China, more than a century apart, A plethora of products surround us and enormously contribute to our pleasure and sense of well-being yet we don't know the systems that produce them. In short, we tend to take them for granted. Entering the 'field' in Narok in 1982, I learned that both my academic colleagues and my neighbors in Maasailand thought that the study of beadwork was frivolous. Some Maasai used the word 'stupid.' Some people in America, Europe and Kenya even thought that they had misheard me and that I was studying bees. (Killumpp/Pido, 1987)



3. Tatted doily purchased in an art supply chain store, New Jersey, USA. The style is European, the workmanship, Chinese. Private collection. DP Photo



4. The 'Irish Crochet' collar in this image was made in China to cater to American fashion of the early 1860s. The needle lace doily also made in China, century unknown but probably early 20th. Private collection, DP Photo

As designers we have, in our DNA, the analysis of the Human Products; meaning, all the material and non-material things that our species has designed and created. The products range from chipped stone tools to laser beams, from family organization to political ideologies from chunks of raw meat to chicken tikka masala. For those of us who are concerned with transmitting design understanding, skills and processes to the young, the embellishment crafts stand out not just for their ubiquity but for the socio-economic rankings and hierarchies that they enact, support and change. Let us consider some of the fiber crafts from basketry to embroidery to fabric craft to lacemaking in terms of ranking by technology, gender and socioeconomic status.

The design and execution of embellishing handwork is primarily a women's undertaking, during our 'free time.' Historically, this work has been ignored or given very low status in schooling, design education and the design profession. School-based education, in general, tends to overvalue types of intelligences and

activities that are associated with males at the expense of kinds of intelligence usually, and often falsely, associated with females. Female low self-efficacy and self-esteem in the classroom are the subject of considerable scientific literature from many countries. Colonial and post-independence governments as well as governments of the so called 'developed' countries have broadly diminished the importance of rural and urban women's craft skills by 'feminizing' them to the exclusion of male students from their pursuit even under the relatively equalized 8-4-4 system of education in Kenya. That effort to neutralize gender ascription to tasks was one reason for the widespread objection of the 8-4-4 systems. Male students who want to learn and/or design for these crafts are subject to persecution in homophobic environments, whether they are homosexual or not, because of the conflation of skills with sexuality and gender.

The Issues

The first dimension of inter- and intra-disciplinary ranking is the brain/hand dichotomy, which leads to the diminishment of importance of manual intelligence and, consequently, forms of expression that are related to manual intelligence. The second is gender segregation, which in the not-yet-distant-enough past, excluded women from and higher education up until the 19th century. Until the mid 20th century women's access was severely limited and the subjects many of us studied were given low intellectual rank. Within my memory, female students couldn't get into law or medical schools and women in domestic science were ridiculed in spite of having PhDs in chemistry. Until very recently the 'feminized' academic pursuits were ranked as second class or

nonentities in university education. We remember a Kenyan woman in the 1960s who qualified to study dairy technology but was forced into 'Domestic Science' because of her gender.

In the present, design professors are challenged by the persistent, negative differentiation between work done by brain and hand and also with false gendering. We are told that the designer has the brain and the craftsman, who executes the design, is of lesser intelligence. Engineers and architects, while looking down on designers, will tell us that the draftsman does only what the higher ranking 'professional' tells him to do. Yet experience shows that the engineer is often unable to translate drawings and takes his draftsman to sites and does so for purposes of linking drawings to on-going construction. This is nothing new. The separation of brain from hand has been with us since ancient Egyptian times.

Consider this quote from around 2000 BCE

"Put writing in your heart that you may protect yourself from hard labor of any kind and be a magistrate of high repute. The scribe is released from manual tasks; it is he who commands ... Do you not hold the scribe's palette? That is what makes the difference between you and the man who handles an oar. I have seen the metal worker at his task at the mouth of his furnace with fingers like a crocodile's. He stank worse than fish spawn. Every workman who holds a chisel suffers more than the men who hack the ground; wood is his ground and the chisel his mattock. At night when he is free he toils more than his arms can do; even at night he lights [his lamp to work by] The stone cutter seeks work in every hard stone; when he has done the great part of his labor his arms are exhausted, he is tired out ... The weaver in a workshop is worse off than a woman'

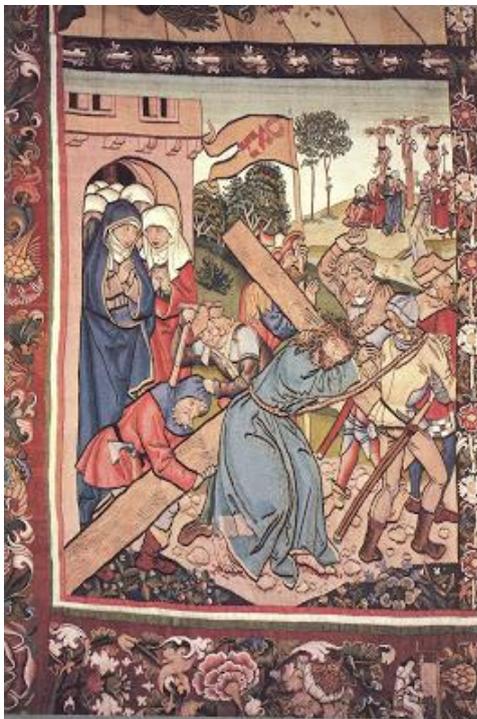
[he squats] with his knees to his belly and does not taste [fresh] air. He must give loaves to the porters to see the light. Egyptian document from the New Kingdom period (Mayer and Prideaux, 1938).

Apparently, to these ancient men, there was one fate even worse than being illiterate or working with one's hands: being a woman. Marriage purports to provide permanence and a firm base for women to bear and raise their children. The other part is that it forces females to become servants to their husbands as the price for protection. While gaining social endorsement and children for support later in life, women have long had to sacrifice their mobility, independence and freedom of choice. Societies have immobilized females in part by imposing embellishment crafts on them as a ticket to social acceptance through home décor and clothing. So, women are first immobilized and then kept busy with tedious slow growing projects that lend them a kind of validation. Apart from wives, nuns are a case in point, sequestered and in the service of the church for all that beautiful lace and embroidery. European nuns, for centuries have made and decorated both the under and outer garments of rich women in addition to creating all the tapestries clerical garb and table linen for their churches and to earn money for their congregations. Because they have renounced all earthly things, they can't sign their work with names so many have put little pictures of themselves making the tapestries. (Derounian, 2017)

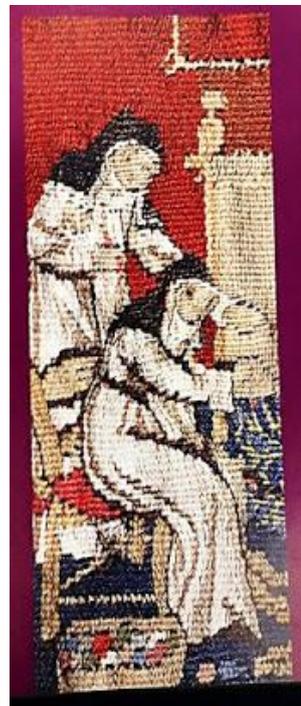


5a, Passion Tapestry, Woven in Heilig Grab Dominican monastery in Bamberg, ca. 1500.

Bamberg: Diözesanmuseum. Bevin Butler Photo



5 b The Passion Tapestry detail



5c the Passion Tapestry Detail

There are many other dimensions of academic and occupational ranking, segregation, exclusion and value-based snobbery, among them the putative theoretical/practical, pure/applied, creative/noncreative professional/educational divides. The beauty, psycho-social status, and cultural centrality of embellishment craft work can be seen as masking its use in excusing the devaluation of women's labour, their exclusion from empowerment through economic reward and the deficit rank that women endure in human society. From a more cynical but no less demonstrable perspective we can also discern the long term exclusion of females from participation in 'intellectual' pursuits, especially those requiring literacy and the further exclusion, based on circular logic, that drives academic institutions K-PhD to devalue and exclude embellishment crafts from their curricula and research. The 'feminization' of needle and thread-based embellishments that has led to the self-imposed exclusion of males from their pursuit is a sad phenomenon carried to extremes in many societies, especially in East Africa. Very recently, we were told by a colleague in engineering that 'stitching is not technology.' A native of East Africa he apparently did not know that Lamu has been famous since the 1st century CE for its stitched boats, made by men (Casson, 1994). We don't normally find engineers devising ways to enable basket makers or crocheters to improve their productivity or to make the work environment more comfortable. Neither have we heard of economists concentrating their efforts on analysis of the household, national and global contributions of embellishment crafts to any economy. When we try to introduce the so called 'feminine' techniques and processes to mixed gender classes, the male students usually become withdrawn, uncooperative and sometimes even angry.

This is not true everywhere. In the Andean region of South America, women spin the yarns and men do the knitting. No wonder the hat below shows us a row of crouching footballers.



6. Hand knitted alpaca wool hat from La Paz, Bolivia showing a register of men subduing condors above a row of football players. Private collection DP Photo

Among the Pokot people of Kenya, men stitch beads to skin as well as women do. And in the Lamu archipelago, men of Asian, African and Swahili origin embroider fine eyelet stitch patterns on Kofias, the traditional Islamic caps. Even among the British colonizers, there has always been a tradition of brave men doing embroidery and patchwork during long months of military inactivity or out of plain gumption in spite of the social strictures against that.



7. Bakari, a master embroiderer from Faza, Kenya (DP photo)

Among the embellishment crafts normally associated with and taught to girls and women are, garment making, embroidery, patchwork, quilting, knitting, crochet and many kinds of trimming and lacemaking in which various kinds of threads, needles, bobbins, shuttles, frames and hooks are used. All of these crafts require refined dexterity, micro agility of the hands, fingers and sometimes feet and toes coordinated with hapticity and visuality. Execution of the work aside, the preparation for the deployment of all these forms of intelligence as a suite relies heavily on ideation, imagination, associational intelligence, visualization, drawing, computational and spatial measurement, coloration, principles of composition and an understanding of symbols, meanings, time allocation and that special kind of change we know as 'fashion.'

While the Digital Revolution has changed the world as we knew it up until about 1990, it is the internet that has changed the work of embellishment done by hand. The explosion of access and communication among the people everywhere who do hand embellishment work has both enabled and disseminated innovations

and exchanges. Now crafters of all kinds from China to Chile, Kamchatka to Capetown, including Europe and Australia can see, appreciate and learn how to do all the embellishment crafts known to humans. We can also do the work regardless of gender- and social class-based definitions of appropriateness. Nowadays men can, and do, stitch in the privacy of their homes without fear of bullying.

This situation is but one of many factors and spinoffs from drawing a division between hand and brain, hard labour and cushy work, high status and low, as well as gender based control over resources. Relative physical strength aside, not the least of these many factors is the well recognized contrast between men's ability to do one thing at a time and women's ability to perform multiple tasks both simultaneously and efficiently.

Bringing this phenomenon directly home to Kenya in comparison to what we know about gender differences and outside history, we can look back not too far in post independence history for an example. In Kenya for at least several decades there has been a tradition of women crocheting bright, complex mats for all the furniture in their houses. As a show of their embellishment prowess and ability to do all the housework, hold a job and raise the kids at the same time, women launder their sets of doilies and hang them out to dry on a clothesline thus showing all the neighbors that they've got it all under control. Some women have up to 15 or more sets of no fewer than a dozen pieces, all made by their own hands in their 'spare time.'

University education for women was virtually non-existent until the 1860s when Home Economics was introduced in the American Land grant Universities. There were already many girls' schools whose curricula included the standard academic subjects along with the domestic subjects. that would come to characterize the Land Grant schools. By the late 1900s, Home Economics, Primary Teacher Education and other 'girls majors' were still ridiculed and looked down upon in most American and other tertiary institutions. It was still considered that a woman's place is in the home and that the discipline and self-containment inculcated through the diligent pursuit of needlework would provide young women with a sedentarizing, calming set of activities that could keep them close to the hearth while producing works of much denied creativity to enhance their families, and husbands' social status. This was the life experience of my own generation and of our mothers and grandmothers.

No one seems to have been thinking about anger management at that time though it became important in the late 20 the century. An often-overlooked point in consideration of women's embellishment crafts is their role in alleviation of boredom on the one hand and anger management on the other. Knitters often refer to their craft as a 'post apocalyptic survival strategy.' At least as early as the 1980s, psychotherapists were prescribing heretofore-gendered embellishment crafts for men who had anger regulation problems. The most famous of these was football star Rosey Gieer, who took up needlepoint, published a book on it and became equally if not more famous among women stitchers than male sports fans.



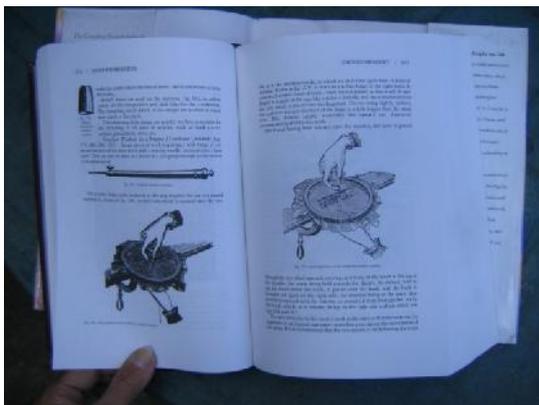
8. The cover of "Rosey Grier's Needlepoint for Men. 1973 The sexy look on his face was NOT for men.

The so-called Victorian Era was not characterized by an efflorescence of textile based embellishment crafts for nothing. The Industrial Revolution had reduced women's domestic workload thus enabling them to sedentarize even more than before. Handmade domestic embellishment became a status symbol for well-financed women in stable marriages. It also became the focus of girls in the form of the 'Hope Chest' a hypothetical box in which the young stitchers saved up their work in anticipation of marriage. I grew up accumulating embroidered linens for a Hope Chest that retrospectively, seems like a silly joke.



9 Fingertip Towel embroidered by The Author from a stamped pattern. 1956 DP Photo

Along with this development there was also an eruption of pattern catalogs, instructional books, and articles, and the social status gained form having 'handmade' rather than textiles produced in the wake of the Industrial Revolution. .A notable example is the comprehensive needlework guide book by Therese de Dillmont, now classic published in 1884. (Dillmont: 1884)



10. An illustration from The Encyclopedia of Needlework. By Therese de Dillmont 1884

I have looked briefly at the role of embellishment crafts at the aspirational upper end of the socioeconomic ladder in western societies but this is far less than half the picture. Throughout history the plight of orphans had been intimately linked with the need for cheap labor. Especially from the late 1600s onward, and poor orphaned and destitute children were placed in 'schools' that were little more than covers for exploitation of their labour for the benefit of the state church and entrepreneurs. By the 1800s this pattern was well developed and we have whole museum collections and records including photographs of the shunting of poor children, especially girls, into the needle trades, that were low energy, high time consuming and low paying in order to salve the consciences of

the richer classes. Many of these girls were denied access to literacy in favour of training them as low paid workers. The history of sexually transmitted diseases in Europe in the 1800s suggests that many young women combined commercial sex work and needlework in order to get by. Most of them ended up dead at a relatively young age



11. Infant Orphan Girls Learning to Sew in One of the Bristol Orphan Houses, c. 1905. Image taken from Centenary Memorial 1805-1905 (Bristol: J. Wright and Co., 1905). Copyright, and reproduced by permission, of the Bristol Central Library.

A lifetime of participant observation (from age 6) in the production of embellishment crafts including needlework and beadwork, has revealed that an occupational commitment to this type of work requires a subsistence base already in place. That means that unless the basics of food clothing and shelter, are catered for from other sources, parents, spouse family wealth, etc, an embellishment worker cannot sustain a comfortable living only on the proceeds from embellishment work. For women whose husbands can and do support them comfortably, the embellishment

crafts are an 'extra' that tells the world that the husband is a good provider. In my 1987 PhD Thesis, I mention this as an issue in the production of ornamental beadwork by Maasai women. I was looking at the transfer of cash resources from the male to the female domain by men's purchase of the beads from distant shops and bringing them home to the women who then made and sold beadwork and kept the proceeds. One observation made during my research was that, while it appeared that the women were benefitting from this arrangement, by supporting their household needs for commodities like sugar tea leaves, soap and salt, they were actually protecting the men's ownership of cattle by enabling them not to have to sell or slaughter to meet household expenses. However, as land and cattle resources have diminished in the last 4 decades, the Maasai community's reliance on women's beadwork for basic sustenance has increased to a point where some men are actually breaking the cultural taboo and are making beaded ornaments for sale. This is especially true of the Samburu community whose young males often migrate to the Coast to entertain and do business with foreign tourists. Because of the expense and complications of bringing wives, sisters and mothers all the way from Maralal to Malindi, Samburu men now also do beadwork for sale.

Another permutation on the theme of women's embellishment crafts as a supplementary income earning pursuit is the role of secrecy. A woman who can keep her lace making or beadwork hidden, can amass some money unbeknownst to the men in her life. We know a Kenyan woman who stitched tablemats to sell. When her

husband started to beat her regularly she showed him her bank statement just before kicking him out of her house.

A similar pattern persists in the entry of development organizations and workers in Africa who provide small industrial development projects in which women, in particular, are given the impression, sincerely or otherwise, that they can become financially self-sufficient through their hand needlework or with a single simple sewing machine. This is the bright side of embellishment craft brokerage, which is rampant in East and South Asia where, in many countries, women eke out a living under harsh conditions working for brokers who take no interest in their conditions. There is a gradation from the individual woman to family and community based groups who feed into this system. Some are grossly exploited while others are able to comfortably supplement their subsistence base.

At this moment in Kenya there is at least one program that sincerely purports to enable women to support themselves entirely by producing cross-stitch embroidery. We have seen their exhibit at a Kuona Trust Art Fair and have photographed both their products and testimonials. It remains to be seen how viable this new industry will be. Incarcerated women in Kenya are taught hand needlework skills without consideration of the impossibility of making a living solely with those skills. Meanwhile, incarcerated men learn carpentry, metalwork and other economically viable skills. (Awory 2021)



12. A sample of cross stitch embroidery shown at a recent Art Fair in Nairobi as a money making possibility. DP Photo

For over a century, Kenyan and foreign women have been exchanging embellishment ideas and techniques, sometimes by force but mostly through observation and admiration. There was the forceful introduction of embellishment crafts during the colonial period through various facilities including the Jeanes school. This was part of an effort to make Africans act like Europeans under the mistaken assumption that they would also think like Europeans. Though many Kenyan women could embroider and crochet tablecloths, very few knew how to knit. Sometime between late 1972 and early 1982, Kenya became a hand-knitters country as the vast majority of women learned or figured out how to create the full range on intricate patterns used by knitters in other countries. Another result of crafters' interactions in East Africa has been a hybridization of many crafts



13. A Kenyan basket called Kyondo made by a Mkamba lady from acrylic yarn in patterns that reesesmble Scandinavian knitting. Private collection, DP Photo

For the Kyondo, this began in 1978 when a Kyondo appeared in the American movie *Annie Hall*. For Maasai beadwork, there had been a tradition of items made only for tourists since the 1880s, Embroidery patterns had been hybridized by the 1960s as local women tried to imitate foreign patterns which were very scarce and hard to get. By the late 60s, foreign women coming to Kenya started using Khangas in their own creative ways and also trying to imitate 'African' beadwork. The cross fertilization of embellishment crafts was well underway by the time that the computer, the internet and all the craft focused internet websites developed in the final years of the 20th century up until now and going forward into the future.

In Kenya the search for a 'national dress' began at least as early as 1971 when the first design competitions were held for that purpose. Many efforts to establish a National Dress by contest or competition failed. By about 2004, the Government put considerable effort in to the National Dress designed by a team of 4 Kenyan designers. The result was excellent from a designer's perspective but it did not resonate with the public and was ignored. At about the same time, tailors began spontaneously making dresses and shirts

from Maasai shukas with beaded trimmings. These became the 'de facto' national dress alongside the jeans and T shirt ensemble.

As a spinoff of the industrial Revolution, mechanized lace making of poor quality and low cost was developed in the late 1800s. Just as motorized looms had wiped out hand weaving industries in Europe of the early 1800s, mechanized lace production destroyed the widespread handmade lace industries of northern Europe. Relics of these industries survive today in museums such as the Pit rivers Museum in Oxford England. Handmade laces survive in some European countries,, notably Belgium, France and Italy, today as expensive souvenirs. At the same time there is a thriving almost unseen industry in production of laces and lace inserts by sedentarized women who sell them to gain small supplementary incomes.



14a A tray cloth from somewhere in Western Europe, found in a second hand clothing market in Nairobi. Private collection, DP Photo. 14b Four needle lace medallions sold in a thread shop in Western Europe for insertion into decorative linens, 20th century. Kind gift of Heather Campbell to the author. , Nairobi, DP Photo

There is a long standing tradition of women producing small embellishment items to sell nearby their homes for small amounts of cash. Notable among these are the lace insert makers of France an

Belgium who parallel to the mainstream hand lace producing industries, make small pieces of lace that other women can then insert or attach to their own cloth work. Another embellishment craft that makes small increments of money for women is beaded flower making. We know a woman in the USs who paid for her annual trips to Europe and elsewhere through the money earned by making little pots of beaded flowers and selling them to her colleagues in the factory where she 'worked.'

The economic bottom line on women's embellishment crafts is that you have to be either rich or poor to do them. For the well off, comfortable women, embellishment crafts become a leisure activity that feeds the social capital of their families through display on their families and in their homes. For the very poor women, embellishment crafts are a way of making an additional small income whether through exploitative employment or by individualized 'piece work. For women in the economic middle, these crafts can openly supplement their household economies or can be done in secret in order to circumvent other people's control of their lives and/or appropriation of their resources.

So far we have considered the social and physical need to sedentarize and sequester females for the protection of male interests. Experience has shown that relying entirely on embellishment crafts is impossible without the recruitment of additional labor to do the work. A housewife with a working husband supporting her and the family can, and they do, produce needlework or beadwork to supplement the household income or to cater for her personal choices. Money can be saved up for school

fees or home improvement. Women who need to exit from harsh environments can use their income from embellishment craft work to assist themselves. In the 1980s I observed a pattern while living in Narok town. Desperate, undernourished, barely clothed women would arrive in town to take refuge from abusive homes. They would attach themselves to one of several female beadwork contractors who travelled regularly between Narok and Nairobi. These ladies would enable their new workers to settle, get food and clothing. Within 2 months or so, the new comers would gain at least 10 kilos and would begin to smile and interact with other women and work on bringing their children from their rural homes. As the AIDS epidemic increases in some places and wanes in others, there is also a need to provide employment, full or part time that requires minimum energy output for people whose lives would be shortened by more vigorous work.

We can now also think of the need to enable both genders to avoid life in the cities in order to maintain their home bases for food production, schooling for children and distribution of resources at their local levels. Textile based embellishment crafts can enable men and women to stay close to home, work irregular hours and seasons and still earn some income provide for there families in a way that can perhaps be called a 'post-industrial mode.' Odoch Pido and I have advocated a similar model in our 2011 paper (Pido and Pido 2011) their subsistence base in in other means of support.

Summary and Conclusion

The neglect and disdain heaped on Women's embellishment crafts has been an entry point into a study of the complex historical,

intellectual, economic and social factors that place these pursuits in a deficit position in the worlds of design and higher education.

Market forces have made others commercially viable on a large scale (Image 2 mass Maasai beadwork) while others remain in the household realm.



15 American studentss in Kenya wearing their newly purchased Maasai beaded bracelets. DP Photo

A century of Western hegemony has seen the widespread acceptance of needlework skills that require cloth and machine made threads and needles. In Kenya's fused culture of the 21st Century, crafters can access and contribute to a plethora of websites that illustrate and demonstrate the intricacies of a global commitment to embellishment crafts in spite of this gender division, social ranking and refusal to recognize the intellectual components and validity of hand work, especially by women, prevents their full development at tertiary level and in general recognition.

Today's mitumba, (second hand clothing and household textiles) has changed the story of hand needlework by providing African women with mountains of cheap, recyclable cloth and concrete examples from many countries as a generation disposes of

its grandmothers' handwork. Likewise, embellishment designers, both professional and amateur from outside Africa, have been able to acquire African craft articles and to aspire to learn how to make them themselves. Digitization through sites such as YouTube and Pinterest and Wiki how, has enabled global access by everyone to everyone's craft history and skills including African skills, techniques, and design, through images and demonstrations online. This new global narrative is bringing manual skills for embellishment into the foreground as surface and embellishment designers exchange and learn from one another.

In spite of all this, gender division, social ranking and refusal to recognize the intellectual validity of handwork, especially by women, prevents their full development at tertiary level and in general recognition. While the geo-political setting has changed drastically, we are still using models that have merits and demerits in our present situation as population increases and resources dwindle. There is a need for motivated designers to come together with producers, engineers and business planners to develop production/business and promotion models that can enable the embellishment crafts to flourish.

In changing technological setting where Virtual Reality and Augmented Reality and other new technologies distance learners ever further from the material, hand work becomes more important in maintaining contact with real materials, tools and processes. As long as we, as educators, continue to place verbal/numerical intelligence at higher rank, as long as we observe and serve the dichotomies of the hand/brain divide and the gender based

ascription of talents, capabilities and skills to either males or females but not necessarily both, we will fail to prepare a large number of agile, resilient and multi-skilled workers whose combined intelligences and skills can be validated with university degrees.

References Cited

Awory, Jayne. Analysis of Pottery Production in Rehabilitation in Women's Prisons in Kenya. PhD Thesis, Department of Design, Maseno University, 2021

Butler Bevin. Frau Bevin's Adventures in Germany. <http://fraubevin.blogspot.com/> accessed Jan 1 2018

Casson, Lionel, The Periplus Maris Erythraei. Princeton: University Press, 1994

Derounian, Flora. How Nuns Changed the Workforce, From The Conversation11 September 2017
="https://sa.bbc.co.uk/bbc/bbc/s?name=capital.story.20170908-the-extraordinary-undervalued-work-of-nuns

Dillmont Therese de Encyclopedia of Needlework. France,; Dollfus Mieg 1884

Grier, Roosevelt. Rosey Grier's Needlepoint for Men. New York: Walker and Company Jan 1, 1973

Klumpp/Pido, Donna. Maasai Art and Society: Age and Sex, Time and Space, Cash and Cattle. Phd Thesis, Anthropology Department, Columbia University Septembr, 1987

Mayer, Josephine and Tom Prideaux. Never to Die: The Egyptians in Their Own Words. New York, Viking Press 1938

Pido, Odoch and Donna Pido.'Exploring Micro Industrial Potentials in Kenya, Nairobi: Nairobi International Design Education Conference, U of Nairobi 2011