



**The Social Economics of Small Craft Production:
The Sword and Knife Makers of Kassala, Eastern Sudan
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Edwin Hunley, Ph.D.
State University of New York at Binghamton
Binghamton, NY 13901

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Table of Contents

Introduction	3
Blacksmith's Market	4
Suq Products	5
Organization of Production	8
Knife Production System	9
Sword Production	12
Micro-economics of Production	13
Knife Economics	14
Sword Economics	15
Income Ranking	17
Suq Governance	18
Non-Economic Bonds Within the Suq	21
The Islamic Guild Tradition	21
The Social Character of Blacksmithing	22
The Ethnic Component of Blacksmithing in Kassala	24
Potential for Industrialization of the Suq	30
Conclusion: The Suq as a Replicable Model	33
Appendix I	
The Cultural and Historical Aspects of Sword and Knife Possession	34
Appendix II	
The Cultural History of the Weapons Manufactured at the Suq al Haddad in Kassala, Sudan	38
Swords	38
Knives	41
Other Products of the Suq	44
Spears	45
Bibliography	47

Introduction

The sword and knife makers of Kassala are a contemporary example of pre-industrial craft manufacture. Their production technology is essentially unchanged from that practiced centuries ago. While a pre-medieval simple technology has persisted, the community of craftsmen has expanded to a national market and developed new culturally appropriate methods of organizing production and a democratic mechanism for addressing their material interests.

This paper will present a multi-component investigation of the production and governance systems of the Blacksmith's Market (Suq al Haddad) in Kassala. In addition to economic and technological issues, it will consider the contributory roles of history, culture, ethnicity and religion in the creation of a contemporary industrial enterprise which must be considered a social and economic success by virtually any standards. For example, under the current systems, over 400 craftsmen earn their living with incomes often exceeding by three to four times that normally available within the local economy.

The organizational features of the production and governance system have possible application in the design of small scale economic development and income generating projects. The features offer an alternative to the "cooperative" form of resource ownership and management often applied in inappropriate ethnic and cultural contexts. They appear to embody a spirit of community (social solidarity and public good) seldom found in multi-ethnic situations or those characterized by competing extended family groups. The cooperative model involves the common ownership and management of productive resources, and is often suggested as a device to democratize production by preempting middlemen, usually merchants, who acquire a monopoly over credit, capital marketing, transportation or other input other than labor. In practice, the performances of cooperatives have been at best spotty (Cf., Widstrand 1970a, Oakeshott 1978 and Bardeleben 1973), but little attention has been given to the research and development of alternative models.

The organization of the Suq's governance and mutual benefit association is cooperative in form, but is separate from the organization of production. Production rests upon cooperation between independent specialized craftsmen who own their tools and their workplace and three large merchants who coordinate production and supply raw materials. Parallel to this "modern" system is a "traditional" system where an individual craftsman and his helpers produce for the market in the manner of the Medieval Guilds. The checks and balances of the governance and production systems prevent the merchants from obtaining a production and marketing monopoly which is usually prerequisite for some form of socio-economic abuse.

The presentation will also show that the Suq's situation is the consequence of several particularities, some of which are influenced by the larger cultural phenomenon of sword and knife possession. For example, the continued existence of a market for the Suq's products lies in the continued importance of certain historical cultural features associated with swords and knives and the specific designs and cultural history of the products themselves. These features will be presented in the appendix.

Blacksmith's Market

The Blacksmith's Market (A. Suq al Haddad) in Kassala was built in 1940 during the brief Italian military occupation of portions of Eastern Sudan. It consists of 28 small, dilapidated mud brick shops arranged in a single row along an exterior street of a larger craftsman's quarters. Each pair of shops adjoins to form a single building approximately 24 x 16 feet. Each shop has doors both front and rear which open on work areas shaded by straw mats. The shops are owned and occupied by individual Suq merchants and craftsmen who may rent work space to other craftsmen. The small covered spaces between the shops are also occupied by other craftsmen who are in effect squatting on municipal land and pay no rent and apparently no property taxes.

The general scene is one of intense and dense activity. Blacksmith teams squat over small forges in the ground or pound away on glowing strips of steel while wood workers chip and finish ebony knife handles. Helpers move back and forth carrying parts and partially finished items between the craftsmen. Steely-eyed Beni Amir from the wilds of Eritrea and aloof, poised Reshayda tribesmen drift through the market while idlers visit and chat with the craftsmen and others like themselves. In spite of all the productive activity, the Suq is a very social place.

The market is a relatively recent development. In 1918 knives and general hardware (axe heads, hoes, weed cutters, meat hooks, harness work, etc.) were produced, but no one made swords. By 1937 only three shops operated in the market and swords were a small proportion of the craftsmen's business. The relocation and expansion of the Blacksmith trade took place following the relocation and construction of the new Suq.

Another expansion took place in the late 1960's when craftsmen began to export their products to other markets throughout most of the Northern Sudan. In 1984, approximately 400 people are employed in the Suq. There are over forty knife makers and fifteen sword makers, supported by their helpers. Only four smiths exclusively make general hardware. The market also supports some 40 knife handle makers, two leather sheath makers, one spear maker, three major merchants and other support craftsmen. The maximum daily manufacturing capacity of the Suq is about 250 knives and 25 swords; but typically only 150 knives and ten to fifteen swords are produced.

A sword scabbard industry also supports fifteen craftsmen in the leather market across town. Scabbards are made for original equipment on newly made swords as well as for a replacement or upscale specialty items for the "after market". Scabbards are also sold in retail shops adjacent to the leather area and there is active trade in used swords in the vicinity. Blade sharpening and sheath and scabbard repair are tertiary services provided under convenient trees or shady areas nearby.

Suq Products

The sword and knife craftsmen have a specific set of products, some of which are made for specific ethnic markets both in and beyond Kassala. These products and their cultural history are treated in detail in the appendix.

Traditional Sudanese sword blades are forged from land rover or lorry leaf springs. They are straight, double edged and generally 34-36 inches long and 1-1/2 to 1-3/4 inches wide at the cross guard and tapered to slightly rounded points. The cross guard is forged in one piece (Figure 1) and the grips are of wood and covered with leather or silver (Figure 2).



Fig. 1. Sword Cross-guard; one-piece forging



Fig. 2 Hadendawa Sword c. 1915

One craftsman makes swords for the Reshayda Arabs who immigrated from Saudi Arabia in the nineteenth century. The blades are single edged, slightly curved upward toward the tip. They are shorter and wider than the Sudanese blades and have a two piece grip without a cross guard.

The larger proportion of Suq craftsmen are engaged in knife production. The knives consist of two pieces; the blade and the handle. Blades are also forged from scrap leaf-springs, but use smaller automobile springs for raw material. They are double edged and vary from 7-1/2 to 9 inches in length and 1 to 1-1/2 inches in width. Production is divided almost equally between straight and curved shape. Handles are either the double 'c' Hadendawa style or the 'crown' preferred by the Reshayda. Up until about 1960 only the Hadendawa style was made. The Reshayda had previously bought blades from the Suq, but had imported their handles from Yemen. Soon after Sudan's independence in 1959, a government official suggested that the handle makers begin addressing this market. The various styles of blades and handles are assembled to form the individual knife styles preferred by various local customers. Shorter blades with different styled grips are also made to export to the nomadic groups in Kordofan and Darfur.

Measuring or gauging instruments are not used. The craftsman's practiced eye produces remarkable dimensional consistency. Slight variation is a positive factor in customer satisfaction with the product. A shopper checks the heft and balance of several specimens until he finds one which suits his taste and hand size. If he doesn't find one acceptable, a craftsman can custom make an item.

One craftsman supported by his son and a couple of helpers produces narrow bladed, double ended spears. These items were once in high demand as the principal large weapon of the Hadendawa and neighboring Beni Amir in the rugged rocky areas to the east and northeast. Today few items are made, perhaps one to two tip sets per week.

Ebony combs (Figure 3) are an auxiliary item made by some handle makers. They remain popular items, but cheap imports are damaging the handcraft market. Some elaborate and highly stylistic examples are made to sell in "folklore" shops in Khartoum.



Fig. 3 Hadendawa Combs

Organization of Production

The Suq operates as a community of producers and is a social as well as productive entity. Three types of organization function simultaneously in the Suq al Haddad. The traditional guild form of independent craftsmen now nominally headed by a shaykh has been partially displaced, and in some instances, superseded by a production oriented form of organization and a new committee based mutual assistance and advocacy institution. This reshaping of the Suq operating and governance methods is the result of recent change in production orientation. In 1962 Mohammad Taha Ahmed, now in his late 40's, became the first person to take knives out of Kassala to sell. Prior to this time, the Suq was limited to the local urban and regional market which extends westward into the Butana Plain and eastward into northern Eritrea. This is a considerable area and because of inter-ethnic unrest its inhabitants had traditionally been heavy users of hand weapons. However, the craftsmen had to wait for their customers to come to them in the Suq. Mohammad Taha Ahmed changed that. He took knives to the urban markets of Damazin, Kosti, Gezira, Wad Medani, Sennar, Omdurman and El Obeid and expanded markets for the Suq's products. Because of their superior quality, the knives sold very well. A few years later, he lost an arm in a motor vehicle accident and because he could no longer travel easily he became a knife merchant. This dramatic expansion of the market outside of Kassala created a need for the economic specialization of exporting the product and for a new way to organize production to increase output.

Traditionally, i.e., before the growth of exports, a single craftsman assisted by apprentices and helpers made both the knife blades and ebony handles and assembled them into finished products. The individual craftsman purchased his own raw materials, made the product and retailed it to the public. He was skilled in all phases of manufacture and owned all his own tools and usually the shop in which he worked. While several craftsmen, particularly older ones, continue to operate in this manner, most others have become incorporated in the export oriented production system.

Today, most of the Suq products are sold through large merchants, one of whom is M.T. Ahmed. The merchants sell to the walk-in trade but most of the volume is marketed by itinerant sellers. Each merchant employs five to seven sellers, each of whom take consignments of 75 to 100 assorted knives and swords to the major towns in eastern and central Sudan. Markets are grouped into more or less exclusive territories for each merchant. Independent itinerant sellers also take similar consignments to smaller areas, spending three or four days in a town before moving on in a regular circuit.

These independent sellers either pay cash for the goods or get them on credit from the merchant. Formal notes of indebtedness are not executed, but the seller registers his name with the Suq committee as a moral contract for repayment. The debt, however, remains with the merchant and not with the committee. The sellers are all known in the

Suq and many of them belong to the ethnic sub-group which is predominate in the blacksmith trade or are relatives of others who operate in the market. Trust reinforced by kinship creates a moral bond to honor the credit.

Under the coordinated manufacturing system, craft specialties have developed. Individual craftsmen make knife handles hewn by hand from ebony blocks. Others exclusively drill the hole in the handle to receive the tang of the blade. Some blacksmith teams forge blades; others make sword cross guards. One man file dresses and finishes the cross-guards and another set of craftsmen make knife sheaths. The sword scabbards and hilt wrapping are completed in the leather Suq on the other side of the market. At each stage in the manufacturing process the components and finally the finished products pass through one of the merchants. The process of knife and sword manufacture will illustrate the production details and how the system functions.

Knife Production System

The process begins with the handle maker (Hashanab in the Hadendawa language and Najar in Arabic). He fashions handles from sections of ebony logs which he purchases directly from the people who harvest them from forests along rivers near the Ethiopian border. His tools are a hand saw, a mallet and a froe for splitting the blanks from ebony blocks, a hand adz, rasps, a hacksaw blade and a small drill. Most men only own the rasps, adz and a hacksaw blade. They borrow the other tools for short term use from neighbors working nearby. The completed handles are sold for cash to a merchant. The Hashanab is free to sell to any merchant. Each craftsman usually specializes in one or another of the characteristic handle styles described above and produces work of differing quality. The merchant can select a product mix of the types and potential prices of knives he expects to sell from among the handles offered to him.

The merchant then gives his handles to the handle hole driller. The driller (H., Talanal; A. Karram) [H. designates the term in the Hadendawa language; A. Arabic] bores a hole in the handle using a bow drill and is paid piece work for a particular lot given to him for processing.

Following the drilling operation, the merchant gives the handles to a blacksmith and, in effect, contracts for finished knives in the quantity and style of the handles given. Smiths also vary in quality with their skills and the merchant matches the quality of handles with the skills of a particular smith. The blacksmith (H. Deed Shabanab; A. Haddad) normally works exclusively for a single merchant and he, along with the bellows operator (H. Fufanab; A. Nafik Algeer) hand forge the blades (either straight or curved). He uses raw material (usually automobile or land rover leaf-springs) and charcoal fuel provided by the merchant. The smith is engaged with his merchant on a long term basis and is further tied to him by cash advances and loans against future production. This arrangement assures the merchant a predictable supply of blades and finished knives. A



← Fig. 4 Wood worker

↙ Fig. 5 Dinka knife smith

↓ Fig. 6 Hamesab merchant



good knife maker can take up to eight years to learn his craft, as opposed to three to six months training for a maker of acceptable handles. He, therefore, has more time invested in his skill and can claim more concessions from the merchant in return for the exclusivity of his output.

These dependency/exclusivity arrangements provide a maximum degree of security for both the merchant and the blacksmith team. However, other knife makers prefer to work independently, purchasing their own materials from the Suq's metal merchant, but usually at higher prices than the volume purchasing merchant. These independent producers often compete by producing premium quality knives and selling them at higher prices to a specialty market. They are mostly the "old timers" who have been in the trade for many years. They usually own their own shops and get income from other craftsmen who rent space outside their shops. Over time they may employ other craftsmen and also become petty part-time merchants. Regardless of whether the knives are produced under the integrated or the individual system, each one must be enclosed by a sheath before it is sold. These "original equipment" (OEM) sheathes are well made and serviceable. They are made of two sheets of cardboard template to the shape of the blade around which wet sheep skin is wrapped and glued in place. A few have decorative tooling but, in general, they are unadorned. The OEM sheath makers work in the blacksmith Suq along with the other craftsmen and belong to the association, being fully integrated into the production process.

"After-market" sheathes with more elaborate decoration and better quality are available from craftsmen in the leather Suq or from general leather workers on the street who also repair shoes and make leather coverings for hijabatt (A. pl.) or amulets.

Tooled aluminum tips and bands to reinforce the sheath (and sword scabbard) openings (A. Samcar) are also made in the Suq and offered for sale as an add-on to factory offerings. Discarded aluminum cookware is used for raw materials. The samcar makers (H. Samcara-nab; A. Samcaree) are also citizens of the Suq and sell their products to the Suq merchants and to other retail outlets in the market.

Both knife and sword hilts and their cases are often decorated with silver. These finer appointments, which also purportedly have magical qualities, are available from the silver Suq as after-market items. The silver craftsmen are not related to the smiths either in function or kinship, but are part of a totally separate system.

Sword Production

Sword production is similarly organized to that of knives. However, the differences in the types and materials of the various components call for a different manufacturing process. In addition, the cultural significance of sword ownership and use (elaborated in the appendix) is different from that of knives. The skill involved in fashioning a first quality sword with qualities of strength, flexibility and finish is considerably greater than that required for a run of the mill item used, say, as part of a wedding ceremony and for virtually all classes of knives. All of these factors combine to make even an average sword maker the most prestigious and best paid of the merchant's stable of craftsmen and the master sword maker an independent craftsman with minimal ties to the export production system.

Like the knife makers, the sword makers receive leaf spring raw material and charcoal fuel from the merchant. Assisted by his helper and bellows man, he cuts blade blanks from the spring stock. By repeatedly heating the metal to a glowing cherry red and hand forging, the blade gradually takes shape. No instrumental measuring is done. All gauging is done by the craftsman's trained eye, maintaining the subtle tapers in width and thickness. Once the blade is complete, he installs the cross-guard wedding it to the blade with two pieces of tough wood which are also panned to the blade tang forming a rigid unit. A merchant's helper then takes the near finished sword to the leather market where a leather cover and cardboard and leather pommel are put on the handle. A braided cotton tassel is also attached just below the pommel. Once the completed sword is mated with a scabbard, it is returned to the merchant ready for sale.

The cross guards are made only by four specialists. One craftsman reportedly makes excellent items, two produce average quality and one man's work is only good enough for the meanest swords. The guards are forged from a flattened and pierced piece of structural angle iron. They are called Tomet in the Hadendawa language, which means "two boys going together", for the two risers or sword catchers which run parallel to the blade (see Fig. 3). The Arabic term is Bersham which I interpreted to mean "hinge pin" or perhaps "rivet". Virtually all of the rough formed guards are sold to a merchant who gives them to a man who finishes them to proper shape and finish with a hand file. The finisher is paid a fixed rate for completing a lot of 20 guards.

The organization of export production exhibits a growth in individual craft specialists who perform production runs as opposed to the traditional craft unit which usually made blades in the morning and handles in the afternoon, turning out completed products. The merchant has become the central figure coordinating production and sales and developing multiple relationships with smiths to insure their production loyalty. By selecting the output of individual craftsmen to match his projected quality/selling price sales mix, he validates the skill of the individual craftsman, encouraging not necessarily



Fig. 7 Swordsmith

high uniform skill, but a mixture ranging from high skill and mediocrity. The effect is to accommodate a variety of skills to coexist, accommodating those just learning the trade and marginal producers as well as mature craftsmen. A micro-economic analysis will reveal other facets of the system.

Micro-economics of Production

Analysis of the internal economics of production reveals an equitable system. As detailed below, each craftsman is paid in accordance to his contribution to the product. The coordination and financing of production by the merchant facilitates the expanded export production and creates what would appear to be an incipient capitalist system. However, it will be argued, capitalization of the Suq is improbable from structural constraints imposed by technology and to a greater or lesser extent by the prevailing ideological commitment of the Suq citizens as reflected by their leadership and institutions.

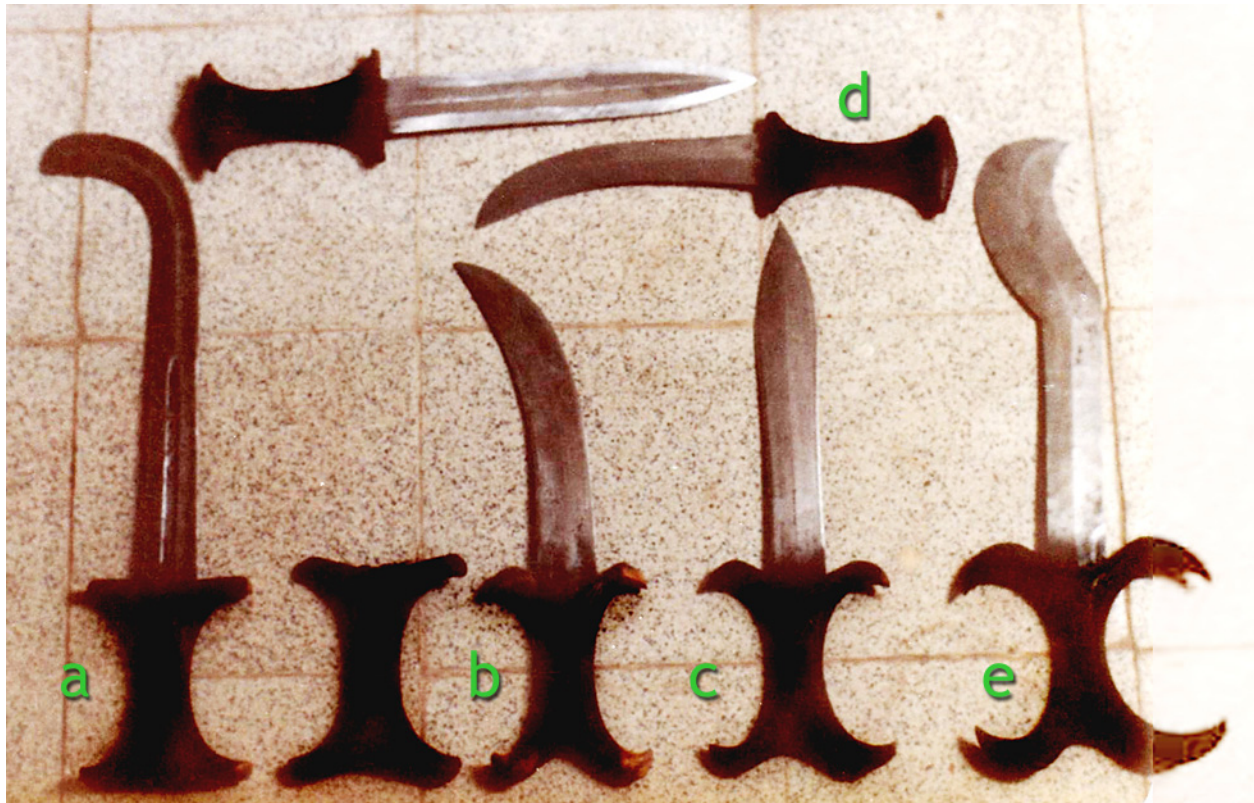


Fig. 8 a. Khanjar, b. Jambawiya, c. Ansari, d. Judami, e. Soat'al

Knife Economics

Handles

Handle makers can make ten to twelve Judami handles (Figure 8d) per day and receive LS 1 for each. Jambariya handles (Figure 8b, c and e) require more time and skill and yield LS 2.5-3 each. The raw materials cost approximately LS .20 per handle blank regardless of style. A craftsman can earn at least LS 8 per day if all of his production is sold.*

The hole driller gets LS 0.10 per handle. If he drilled the output of five handle makers (50 pieces), he would earn LS 5 per day. It takes less than a minute to drill a handle, so one man could easily accommodate the entire output of the Suq and earn LS 15-20 per day. However, the work is spread among two or three professional drillers and in at least one production shop, drilling is part of the handle carving process and is usually performed by an apprentice.

* In 1984 the bank rate of exchange was 1.78 Sudanese Pounds (LS) per U.S. dollar.

** Daily wage rate in Kassala is around LS 3 per day.

Blades

A spring steel blade is sold to a merchant for LS 2-3. A two man blacksmith team can produce a maximum of ten blades and install the handles in a day. The helpers will be paid LS 2-5 per day, depending on their experience and individual arrangements made with the smith. The knife smith can, therefore, presumably earn LS 15-20 per day.

A blade forged from worn out metal working files sells for LS 15. The few teams who produce these premium blades usually complete up to three items per day. The handles are made by another craftsman. The complete knife (Garbarmiya) (see appendix) often sells for LS 20-25 to truckers from Western Sudan.

Sheaths

A leather worker in the SIN can produce a lot of 50 sheaths in two days. He will be paid an average of LS .75 each by the merchant and can earn LS 19 per day.

Cost of Knife Production

Handle	LS 1
Blade	LS 2
Hole	LS 0.10
Blade Blank	LS 0.30
Sheath	LS 0.75
Charcoal	LS 0.10
<hr/>	
Total Cost	LS 4.25

The price charged by a merchant for the Judami, the highest volume product of the Suq, is LS 5 and he can theoretically gain a profit of LS .75 per knife sold. However, production demand and sales volume are interconnected. Other factors complicate the economic picture. These factors will be discussed below following the consideration of sword economics.

Sword Economics

Sword economics are more complex than knife economics because the manufacturing process of swords is more complex. In knife making, more or less interchangeable blades and handles are made separately and joined to form a completed product. Sword making is different. The sword making team makes a blade and joins it with a purchased cross guard and uses two pieces of soft wood to firmly attach the two metal components. The two pieces of wood also form a rough handle which is finished with leather in the Leather Suq.* I was not able to record all of the subsidiary costs, so the economic analysis is incomplete.

Cross-guards

A specialized smith team forges a guard in one piece from a piece of angle iron. The team can produce ten guards per day and sell the rough forged items to a merchant for LS 2 each. After deducting LS 5 per day for helpers' wages, the smith can earn LS 15 per day.

The merchant returns the rough forged items to a finisher who received LS 2 for forming the facets and smoothing the surface. He can earn LS 3-4 per day. The finished guards are returned to the merchant who sells them for LS 5 to the sword smith.

Blades

The sword smith receives a leaf spring half from the merchant who has paid LS 5 for it. The spring will yield two sword blade blanks. The smith team can forge three to four blades and assemble the blade, cross guard and semi-finished grip into a single unit in one day. The smith may receive as much as LS 10 per blade and after deducting LS 5-7 for the helpers' wages can clear upwards of LS 23-33 per day.

Scabbards

The scabbard makers can each produce six to seven units per day for which the merchant pays LS 3 each. Better quality scabbards, usually sold as replacements for worn out ones or for more prestige go for LS 5. The leather worker provides his own materials and works alone. He can probably net from LS 10-15 per day.

<u>Cost of Sword Production</u>	
Blade Blank	LS 2.5
Cross guard (rough forged)	LS 2.0
Cross guard Finishing	LS 0.2
Scabbard	LS 3.0
Blade and Assembly	LS 10.0
<u>Total Cost</u>	<u>LS 17.70</u>

The selling price of the completed sword with scabbard is LS 25-30, yielding the merchant a profit of an estimated LS 7.3-12.3 per sword. If these costs are correct, the merchant would receive a profit of 30 to 40 percent of the selling price or from 40 to 70 percent of his investment. By contrast, the merchant only makes 15 percent of the selling price on knives. The differential between cost and selling price is considerable, owing no doubt to the "cultural value" of swords investigated in the appendix.

*Higher quality blades, including some of the stylistic variations presented in the appendix, require considerably more skill and time than the "standard" items. These premium blades, selling for in excess of LS 50, are usually produced for specific customers and are not included in the export production system.

It would appear, from a purely cost/price point of view, that the sword smiths would be better off to make swords and sell them directly to the ultimate customer, as is the "traditional" practice. The constraining factor is possibly local sales volume. By producing and selling to the merchant who serves a wide market beyond Kassala, the smith can produce more and earn a higher daily income than the traditional system will permit. While the merchant is certainly compensated well for furnishing materials, fuel, capital and maintaining an export sales structure, he isn't appropriating anything from the producer. The higher value of the swords is created by an export market. If the smith were producing for the local market, his per item "profit" would be high, but his total income would be lower.

Income Ranking

On the basis of estimated daily income, a hierarchy of craft specialists is evident. Sword and knife smiths are the highest paid and have the highest prestige. However, cross guard makers and the scabbard makers are not far behind and, though not prestige crafts, do demand considerable skill. It would then appear that income is a function of technical skill. The exception to this method of ranking is the knife sheath maker. The skill requirements for this item are far below that of scabbard and guard making. My income estimate could be incorrect or sheath making could be a low prestige craft and others have not entered the craft to dilute the internal market.

<u>Craftsman</u>	<u>Daily Income in LS</u>
Sword Smith	25-30
Knife Smith	15-20
Sheath Make	19
Cross guard Smith	15
Scabbard Maker	10-15
Handle Maker	8
Sword Smith Helper	5-7
Knife Smith Helper	5
Hole Driller	5
Cross guard Finisher	3-4

It should be kept in mind that the daily income figures are potential maximums assuming that the craftsmen are producing at their capacity. For example, the maximum knife output of the Suq cannot be absorbed by the market, which often varies seasonally. Different strategies are practical to augment income. Marginal diversification into the production of camel saddles, combs and novelty items described above, as well as blade and handle repair and replacement and petty selling is practiced by many. One shop group has apparently selected another means of almost complete integration with a merchant to insure the maximum utilization of their production. One shop owned by a handle maker houses 20 craftsmen who sell all their output to one merchant. There are

eight wood workers and six blacksmith teams of two men each. The shop can produce 60 complete knives in one day (usually 40 Jumbawi and 20 Duri'ear) or ten per blacksmith team. If this group contracts with a merchant to supply its productive capacity, it forms the core of the merchant's daily sales. The merchant can then use other independent craftsmen, both handle makers and smiths, to provide the remainder of his marginal and fluctuating daily or weekly needs. By dealing solely with one merchant, this group can maximize their output, but as they abdicate direct commerce with the local market, they become more dependent on the integrated relationship and become more like employees of the merchant than independent craftsmen involved in a cooperative-type marketing arrangement.

The merchant's total profit structure is in a different realm from that of the craftsman. His maximum income is determined by the number of items he can sell or put out on consignment to be sold. He is, therefore, interested in developing a wider market beyond Kassala and developing a larger number of blacksmith teams to produce for this market. The limiting factor to his economic growth is the amount of capital he can accumulate to finance production and distribution. The craftsmen, by comparison, are limited by the number of items they can produce using the existing level of technology.

Since the technology practiced is 100 percent hand work, the limitation is literally man hours/item and the only way to increase production is to reduce the amount of time spent on producing one unit and thereby reduce overall product quality. The prospects for increasing productivity through industrialization will be discussed after certain influencing factors are considered.

Suq Governance

The Suq's professional and mutual interests are served by two parallel systems. The traditional system is perhaps a vestige of the medieval Islamic guilds but since 1979 a more democratic committee type structure has predominated. The transfer from the old to the new system has been gradual and will probably be complete when the present Shaykh of the Suq, Musa Malit, dies. He is 85 years old, infirm, no longer works and usually spends each day in his son's shop resting. The old Shaykh is still respected and acknowledged as the leader, but issues of substance are brought to the committee.

The Committee is the governing body of the principle Suq organization. Its membership is drawn from among the Suq citizens who serve for rotating periods of six months. It has two officers, a president and a secretary-treasurer, and three general members. Usually two or three of the Committee members are sword makers. By general consent, the secretary-treasurer does not rotate because the incumbent, a young man in academic secondary school, is good with figures, writes well and can make effective presentations to the municipal and regional authorities. (His social position will be examined below.)

Of the approximately 400 who work in the Suq, only about 20 people do not belong to the organization.

The Committee does not function as a production coop, or aid the craftsmen in joint purchase of materials or in production marketing. These functions are provided by the private sector. It functions instead as a limited municipal mutual assistance association addressing the needs not only of the blacksmiths but those who earn an income in the Haddad Suq, i.e., its citizens. Not all craftsmen in the Suq are blacksmiths. Over half are handle makers, while others practice leather work, make camel saddles or practice tin smithing. A leading figure in the Suq, the current Committee president, has owned a tea shop there for over thirty years and has never been a craftsman. Merchants are also included in the membership.

The Committee serves the common needs of the market in several ways. In 1982 the Gash River flooded much of Kassala, including the Suq al Haddad. The Committee petitioned the local government for flood relief and property owners who suffered were granted a cash indemnity of 20 percent of their losses. The Committee also provides a form of sickness and accident insurance for the members. If a member is absent from the Suq for a couple of days, a delegation is sent to inquire about his health. Payment is made from a common fund to tide him over during his hardship.

Each member contributes LS 1 per month into a general fund. This is a nominal sum for operating purposes, but equal contributions from merchants and apprentices alike are symbolic of the egalitarian values of the earlier Islamic guilds and the social justice inherent with this form of group solidarity.

Sword and knife makers each make considerably higher weekly contributions to their respective "boxes". At the end of 20 days, the accumulated funds are given to one of the contributors in sequence until each receives his share. This form of rotating enforced savings builds solidarity among the individual craftsmen involved. Craft solidarity and the high proportion of sword makers on the Committee suggest that they comprise the political power of the community association. However, as subsequent analysis will show, another Suq power constituency may also be kinship based.

The role of the Committee also extends into an area characteristic of the earlier Islamic guilds. The ethical and moral aspect of group membership allows the Committee to function as the moral guarantor of debts between itinerant sellers and Suq merchants. This feature was discussed above as a financial expedient to the export trade.

The association is now branching out from its welfare/advocacy/guarantor role to enter into a cooperative economic enterprise outside the realm of the Suq. It is in the process of building a restaurant. The Suq workers generally "eat out" for fatter, the 9:30 a.m. breakfast and for lunch which is usually eaten about 2:30 p.m. Rather than eat in

establishments in the market, most would prefer to patronize their own restaurant. This corporate venture is being financed from the monthly contribution made by each association member. Such investments could be considered as a logical outgrowth of the revenue collected in the association "fund". In the five years since the Committee's founding it is probable that a considerable sum has been collected by these monthly contributions. Investing these funds into a non-blacksmith related enterprise allows economic diversification into an area which would not influence the relative profitability of any segment of the manufacturing processes represented in the Suq, yet still appeals to an interest of most members who purchase their meals every day. Profits from patronage by the Suq workers and others from the market at large will eventually amortize the capital investment and provide a degree of unearned income for the membership.

The blacksmith market in Kassala has apparently developed a degree of community solidarity rare among commodity producers in the Sudan and elsewhere in Africa. El Dawi's study of the Omdurman Suq in 1963 revealed that the old Shaykh headed system was deteriorating, if not dead. Many crafts had no Shaykh, The few with them held them in respect, but conducted their affairs as individual families or among business partners or friends. The break-up of the old craft guilds were not replaced by any substitute form of collective organization within crafts or the market as a whole. Government sponsored producer groups in East Africa have generally exhibited spotty success, usually because of conflicting loyalties to kin groups and political factions by coop managers and members usually to the detriment of the cooperative organization. (See a collection of articles on cooperatives in Kenya, Uganda and Tanzania; Widstrand, ed., 1970).

Oakeshott's investigation into workers' coops in Europe showed that cooperative enterprise success is dependent on workforce commitment and that "experience has shown that this commitment is rarely achieved when the initiative comes from outside the working group" (1978:59). The Kassala Suq al Haddad is evidently an "inside job", an original and indigenously produced form. It has no apparent links to the cooperative system in the Sudan.

Bardeleben's study revealed that coops there were mainly organized for marketing or processing agricultural produce (1973), reflecting a national priority of increasing exports. There are also village commodity purchasing and distributing organizations which produce a marginal income for small-scale community development projects. All of these are qualitatively different organizational forms and are only included to emphasize the apparent exclusivity of the Kassala experience.

Non-Economic Bonds Within the Suq

The preceding analysis has focused on the production processes and economics involved in craft manufacturing. The fact that the Suq makes knives and swords was only important in that the product gives a focus of reference to the manufacturing process. Virtually any multi-material, multi-component product could be being made. By the same token, the craftsmen could have been anyone with sufficient technical skills to manipulate tools and reproduce the more or less standard form of the products.

It is at this stage of investigation and analysis that the feasibility of a production and organization model is often determined. On the bases of criteria such as high production, high employment, equitable internal pricing, high worker income, high worker autonomy, and worker participation in group decisions, the Suq al Haddad model is indeed worth replicating. However, it does not necessarily follow that the structure would be successful in another context. Two considerations have been neglected so far: the market for the product and the social aspects of community within the Suq. The market will be assumed to exist although this critical feature should not be taken for granted in project design. The social aspects will be considered in detail.

The social community of the Suq is formed on the basis of non-economic bonds of cooperation, shared identity, loyalty, common values, and interpersonal relations which also extend beyond the workplace. The production process is dominated by money relations, but Suq governance, craftsman training and the social organization of the community is dominated by ideology. The "ideology" of the Suq is a universe of beliefs, norms and traditions of specific importance to the Suq members. It involves Islam, the historic and cultural features of blacksmithing, and the kinship and ethnic dimensions of social identity and unity. I hope to illustrate that it is the quality of these social (noneconomic) bonds which determines the acceptability of an organizational model introduced within a cultural context.

The Islamic Guild Tradition

Craftsmen's guilds have been a feature production organization and social support virtually since the rise of cities. They may have had their origin in the smithing "tribes" of the Iranian Plateau or, as Brentano suggests, developed among the Germanic peoples for mutual self-help and support beyond the family (Brentano 1969). Much of the research into the guild system has been focused on the rise of European guilds and the contribution of merchants' guilds to the rise of capitalism

Merchant guilds dominated the production system and master craftsmen often dominated the journeymen and apprentices, creating structural differences between organizers of production and the producers. Early Islamic guilds, by contrast, were characterized by egalitarian values and a structural difference did not arise between masters and non-masters.

In Kassala, there is no class difference between the master craftsmen and their helpers and apprentices. Each works side by side, although there is also a scale of prestige within the ranks of individual craftsmen, based upon skill and personality, and as shall be detailed below, ethnic group affiliation. While discrimination does exist, no individual or group can control the ability of anyone to earn a living by practicing his craft.

Bernard Lewis, in his essay on Islamic guilds, finds a close association between organizations of craftsmen and a series of early social movements characterized by revolutionary action against the Sunni orthodoxy and the Caliphate and possessing an equalitarian social philosophy (1937:22). He traces the emergence of the Qarmati ("Carmathian") movement of the tenth and eleventh centuries, the Rasa'el Ikhwon and the Futuweya. Following the Mongol conquest in the middle of the thirteenth century, the Akhi movement rose in Anatolia and quickly spread throughout the countryside among the artisan classes. Unifying the guild, the Futuwiya (neighborhood protective and welfare organization) and the religious brotherhood, the Akhi movement, created an inner spiritual life and moral code that has lasted well into the twentieth century (Ibid.).

No organizational or ideological links have been established between the Suq and these early religious movements or their surviving traditions. The Suq was established only recently (1940) and the Hamesab subsection of the Hadendawa only became substantially involved in blacksmithing since the early 1880's so any continuous links would be hard to document. Probably all of the Suq citizens are professing Moslems and as membership in a Sufi order is virtually universal in Eastern Sudan most probably follow a tariqa (the spiritual path of a leader of a Sufi order). The Sufi concept of brotherhood involves loyalty, support and a code of behavior between members. However, any such code taken alone probably could not be considered a basis for social solidarity within the Suq. Tariqa affiliation of the Suq membership was not a subject of direct field inquiry; neither was the ideological basis of Suq solidarity. Further elucidation must be deduced from other features of tradition and social organization.

The Social Character of Blacksmithing

Blacksmiths and other traditional craftsmen/women create the material culture of a society. They create the tools, valued possessions, commodity trade goods and the monuments to the political leadership. In spite of their technical expertise, craftsmen usually occupy the lower rungs of the social hierarchy. Within the various handicrafts, there is also a hierarchy.

Among many societies, the blacksmith, along with rope makers, tanners, shoe makers, and tailors, are classified among the lower crafts and trades. The more prestigious occupations include wood, silk and woolworkers, silver and gold smiths and jewelers (Hobsbawm 1959:113). Among the Zaghawa of Western Sudan and the Somali, for example,

blacksmiths are a despised caste subject to much discrimination. However, discrimination is not universal.

Iron metallurgy existed on the Iranian Plateau during the second millennium B.C. It was practiced by wandering smith tribes who often enjoyed a monopoly in the trade. They were able to gain certain privileges from those who needed their products. The Arabs, while not counting a blacksmith as a member of their tribe (and consequently a social inferior), consider the trade of such importance that the murder of a smith demands a far heavier vengeance than normally associated with the murder of an ordinary tribesman (Wulff 1966:49).

Informants say that there is no social stigma associated with blacksmithing in central and eastern Sudan, but the heavier metal working trades are separated from the commercial center of the market, perhaps as an urban planning tool.

Blacksmithing, due to its nature, is a hot and dirty business, dealing with utilitarian implements like axes, hoes, maddocks, dura harvesting knives, chains and other rugged and no-nonsense implements. In Gedaref, 250 kilometers south of Kassala, smith's shops are in crude shelters among junked cars on the fringe of the market. In Mufaza and Fao they are also off to the side.

In El Hawata, a relatively large regional market town, blacksmithing serves more of a craft industry and a mechanical equipment repair clientele and is located in a general industrial area. The headquarters town of the new Rahad irrigated agricultural scheme, El Fao, houses its metal workers and electric arc-welders in the industrial area, while the traditional blacksmiths are, as in Kassala, on the outside boundary of the market area near the traditional bed (angareb) makers and tin smiths. This limited sample suggests that within metal working there is a social hierarchy, as evidenced by physical separation of crafts in the markets. The higher the status, the closer the craftsman is to the center of the market and hence to the Mosque. (This may or may not be related to craftsmen's early antipathy for orthodox Islam.)

In Kassala, this schema is practiced to a certain extent. The high status gold and silver craftsmen/merchants occupy masonry shops near the market center. This is similar to the arrangement in Omdurman, as reported by El Dawi (1963). In fact, the lower status blacksmiths of Kassala were relocated outside of the market center in 1940 when the new Blacksmith Suq was built. In Kassala, traditional blacksmithing trades are located side by side with the sword and knife makers. However, the sword smiths are held in highest regard. Their relative position is due to a combination of seniority, the skill associated with sword making and the aura associated with the swords themselves. In medieval Persia the sword smith was most highly regarded of all the metal workers (Wulff, *Ibid.*). The Suq has experienced a recent status change. It is courted by distinct, regional and national politicians and its craftsmen are often called on to make mementoes

and sports trophies for visiting national and international figures. The symbol of the Eastern Region, the soat'al knife, originated in Kassala. The relatively new prominence of the Suq al Haddad may be more closely related to the ethnic qualities of the political interest group it represents, rather than a status change of the craft itself. In other words, status would be more closely related to power than to occupation.

The Ethnic Component of Blacksmithing in Kassala

We have considered the economic and sociological components of the Suq and briefly explained how technology may influence both. In this section we will explore how one particular ethnic group, the Hamesab subgroup of the Hadendawa, became the chief sword and knife makers of the Eastern Sudan.

Wulff states that blacksmithing was spread out of the Persian Plateau by certain wandering smith-tribes. As early as the second millennium B.C., ethnic specialization was recognized (1966:48). It is easy to understand how craft and occupational specialization may spread through kinship organized societies. Skills are easily passed from father to son or to brothers' and sisters' sons. Over the generations, skills, occupational legacies (opportunities and limitations) and professional reputations may accumulate to a tradition and ethnic identification with a particular occupation. However, in the Hamesab case, we find a relatively recent identification with the craft. They responded to a religio-nationalistic situation and took up the trade virtually as a religious calling. The theoretical and practiced aspects of this "calling" are important to this discussion.

In 1883, Mohammad Ahmed proclaimed himself the Mahdi and began the revolution against the Ottoman Egypt's administration of the Sudan. The revolution, which manifested itself in a fundamentalist religious/political movement, was most influential in the creation of Sudan as a nation-state and still sets the tone and influences feelings for much of contemporary politics (Warburg 1981). This subject has been reported and analyzed in a rich literature (Cf. Voll 1979 and Holt 1970) and need only be mentioned briefly here to help define an historical and ethnological context.

Othman Digna was the military leader of the Eastern Sudan and fought against the British during the Mahdi's conquest, throughout the reign of the Khalifs (who succeeded the Mahdi) and at the final battle of Omdurman in 1899 at the end of the Anglo Egyptian reconquest of the Sudan. He has become a character of heroic stature in the Sudan. He shares status with the Khalifa himself and All Dinar, Zubier Pasha and other heroes of Sudan's anti-colonial history, all occupying rungs below Mohammad Ahmed al Mahdi.

According to tradition, Othman Digna asked a blacksmith in Gabarat, a village northeast of Kassala, to make swords and knives for the Mahdi's army. This blacksmith, who was the "grandfather" of his tribe, the Hamesab, responded to the request.

This seemingly straightforward request for the manufacture of arms, when viewed in light of certain realities of Sudanese religious and social values, became a virtual commission from Allah to make weapons for the Holy War (jihad). Sword and knife making became a tradition of the tribe. The continuation of the tradition is evidenced by the fact that of 400 to 450 Suq workers probably 250 are Hamesab.

The Hamesab are one of the seven major subsections of the Hadendawa, who along with the Beni Amir and Amarar Besharin comprise the Beja peoples, the indigenous occupants of Eastern Sudan. (In fact, my informant said that the language of the Meroitic civilization was Hadendawa.) The founder of the "tribe" was Hamish Abu Kale, one of the seven sons of Mohammad Al Mubarak who came from Arabia. Paul calls this subsection the "Kapolei" (1954:138, 142). This local tradition differs from that reported by Paul (Ibid.) which says that Mubarak was the son of a man who defeated the Bello in the Sinkat area during the last quarter of the sixteenth century (Ibid. p. 77f.). The significant aspect of the legends is that along with the Baja's conversion to Islam, they acquired an Arab genealogy and a legitimate place in the segmentary lineage system of the Arabs.

Segmentary lineages are systems of social organization and methods of recognizing descent from an apical ancestor in which brothers of a generation are the founders of another segment. The assumption of an actual or fictive genealogical linkage is common among Sudanese tribes (Hasan 1973, Holt, Ibid.) and other groups who converted to Islam under Arabic influence (Trimingham 1949).

While segmentary systems are found in non-Arab populations (Evans-Pritchard 1940), they are most common in pastoral societies and are functionally efficient in assuring access to resources and in providing mutual self-help among widely scattered herding groups who may be lineage segments or subsections. In practice, subsections may be in conflict and only unify to oppose a threat from other groups of the same order. There is no evidence that the Hadendawa use segmentary ideology as the primary basis of political organization, but they subscribe to it as a method of legitimizing the cultural value of Arab identity and, more importantly, the group ethnic identity of subsections.

Parallel to the intergenerational transmission of ethnic identity is the tracing of a genealogical link (actual or fictive) to the Prophet Mohammad or individuals or ethnic groups who fostered the advent or spread of Islam. Ethnic closeness to the Prophet is not diminished by intervening generations or centuries. If one's group is close, then the individual accrues any social status benefits of that closeness. Structural closeness may not be the valued good, but what this closeness means is highly sought.

Among Arabized and Islamized populations, the segmentary ideology is linked with the concept of baraka or the blessing of Allah. Among many contemporary Sudanese, the pursuit and acquisition of baraka is perhaps the driving force of popular Islam. The blessing is important to success in almost every field of human endeavor as benefits are

often considered not to be the sole results of one's enterprise (or lack of it), but to derive from the Will of Allah. In a society where one has little control over the inputs of success, the pursuit of supernatural intervention or acquiescence is a rational adaptation to a high risk situation.

When Mohammad became the Prophet and Messenger of Allah, he received baraka in abundance. He is the human epitome of divine blessing and favor, as the only legitimate spokesman and implementer of God's will on earth at that time. The Prophet's companions also received baraka by virtue of their commitment to Mohammad's cause. When he died, his religio-political authority and his spiritual legacy were passed on through a series of spiritual heirs through the principal of tafiwid. Competition and wars over who were the legitimate heirs of his authority have rent Islam throughout its history.

This conflict spawned many schismatic sects and revolutionary movements, including the Ismailia sects which played a part in the development of the Islamic Guilds.

Thus spiritual and political legitimacy and, with it, the possession of baraka became a valued commodity. Islamized tribes or ethnic groups with established links to this legitimacy are thus blessed and will be successful in their affairs and battles with their enemies.

Baraka need not be solely derived from genealogical succession or tafiwid. It can be transmitted directly from the Prophet or his followers to this day or earned through religious study, piety, the pilgrimage to Mecca (the hajj) and participation in the Holy War (jihad). Direct transmission usually occurs in the form of a vision (better yet a "daylight vision") of the Prophet in which he issues a directive, a charge (or a "calling" in Christian vernacular) to perform a work or preach Islam or to reform the religious practices of people who are already, at least nominally, Moslems.

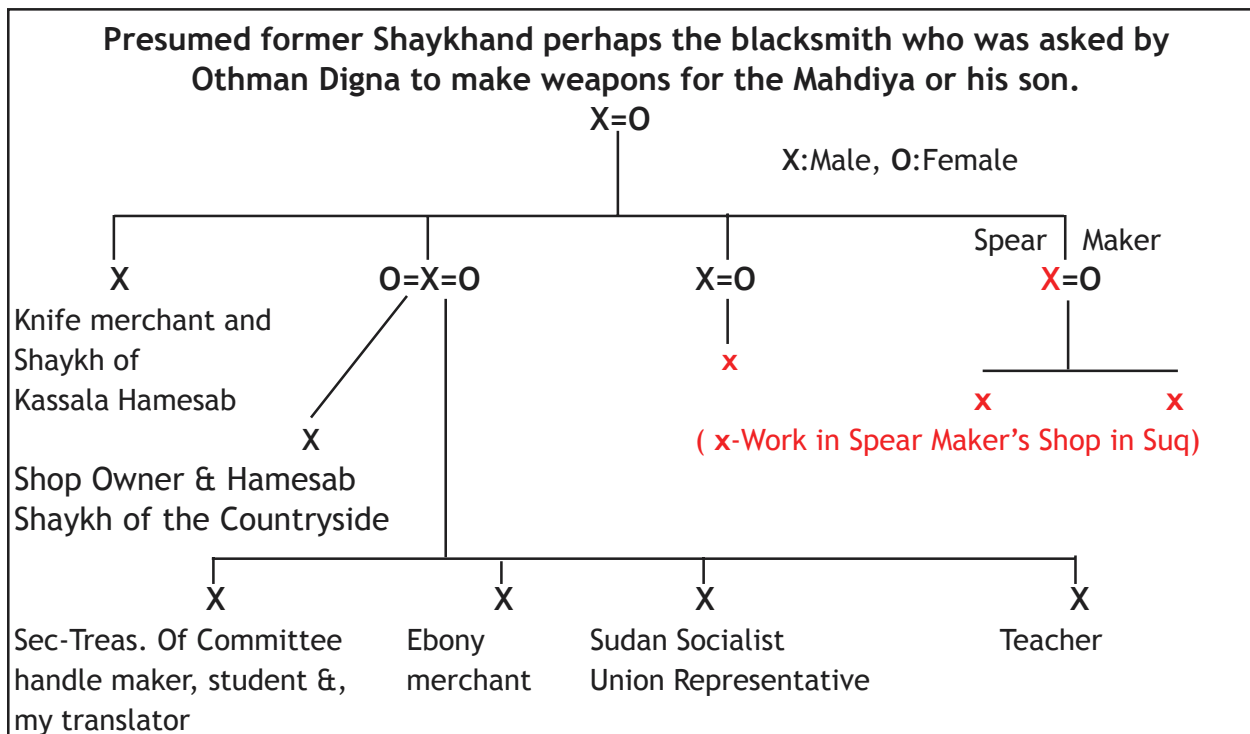
Mohammad Ahmed had earned a measure of the blessing from his piety, his association with the shaykh of a Sufi order, but he was called to be the Mahdi through a vision from the Prophet. The resulting baraka was shared by Othman Digna when he was commissioned to lead the Mahdi's soldiers in Eastern Sudan and was in turn transmitted to the Hamesab blacksmith who was asked to make swords and knives to fight the religious war. Thus, the craft became a religious calling among the Hamesab and after three generations it is still an occupational tradition. In fact, the "chief" of the Hamesab is the one-armed merchant who first sold knives and swords outside Kassala. He is also a friend of the son of the Shaykh Ali Butai who was personally commissioned by the Prophet to build a Mosque for the teaching of the Quran. Opened in 1951 at Hamish Qurab, 280 kilometers north of Kassala, the Mosque has an international reputation and receives financial support from Saudis Arabia.

Many of the older blacksmiths still strongly identify with the Mahdiya and perhaps consider themselves Ansar or followers of the Mahdi. One shop displays pictures of the Mahdi,

Sadiq al Mahdi, the Khalifa, Othman Digna and Gen. Gordon, who presided over the Egyptian defeat at Khartoum in 1885. The shop owner compared the Mahdi's soldiers and the war with the British with the Afghans and the Russians, "they (the Afghans) shout Allah Akbar (God is great) and frighten their enemy". The descendants of the Ansar fighters are still recognized and respected. A young boy was pointed out to me as he walked through the Suq, "his grandfather was a Mahdi soldier". Ethnic pride derived from a legacy of baraka is reinforced through participation in current events which further reinforce the strength of the group's baraka.

The ethnic leadership of the Hamesab is firmly instituted into the Suq and has ties to the political and, as illustrated above, religious leadership of the region. The knife merchant is the Shaykh of the Hamesab in Kassala and as such is the ethnic leader of the Hamesab blacksmiths. His brother, a grocery and dry goods shop owner in another part of the town market, is the shaykh of the Hamesab outside of the town. My informant, the secretary-treasurer of the Suq committee, is the half brother of the county shaykh and also the brother of Kassala's representative to the Sudan Socialist Union (SSU). A partial genealogy of this family illustrates the extent of their influence in the Suq and in other area affairs.

The Sug represents the basic economic interests of this extended family. The linkage to the national political system suggests that the interest of the Suq merchants can be transmitted to the government through the legislative structure. No doubt, the Hamesab both within and outside the Suq, along with the non-Hamesab Suq citizens, contributed to the election of the SSU representative. Solidarity of this sort enhances the prestige,



status and power of both the Hamesab leadership and, through them, that of the Suq in general.

It is apparent that kinship plays a significant role in the operation of the Suq, but kinship groups apparently do not represent structural blocs in its organization. Several groups of brothers, sons and nephews work in the Suq. Some of them work together, but usually they work in different shops as independent craftsmen or helpers. Having relations in the Suq helps younger workers enter the trade and secure training, a job as a helper or a work space to pursue a craft. Not all craftsmen want or expect their sons to become blacksmiths. One older smith says the work is too hard and his son is in a university in Egypt.

There are many marriages between the families of the Suq. There is little structural or economic advantage to be gained by such unions, but, as one blacksmith said, "people know each other for a long time".

The Hamesab comprise the majority of the Suq's citizens and virtually all of the rest are Hadendawa, but they are of a variety of other subsections. At least three other separate ethnic groups, none of which are related to the Hadendawa, are also represented by craftsmen in the Suq. They are the Jaa'lin, the Hausa and the Dinka. None of the minority groups are represented in sufficient numbers to actually compose a social structural unity within the Suq, but they probably integrate into larger ethnic units within Kassala or its environs. As individuals, they practice their craft with apparent freedom and success, but they are not completely integrated into the Suq's social system. Ethnicity is indeed a factor of their participation in the Suq's affairs.

Small family groups of Jaa'lin, a major tribe in the Nile valley, work as general blacksmiths, but apparently do not engage in knife or sword craft or trade. Another Jaa'lin only makes swords for the Reshayda and apparently is the only person who makes this type of blade. The Dinka man, discussed below, once made these blades, but because he is black, they would not buy from him. The Reshayda are said to prefer dealing with lighter skin people and the Jaa'lin sword maker fits their image of someone most like themselves.

At least one man who calls himself a Hausa makes knives and does general blacksmith work. He says that Hausa intermarry with Hadendawa and Jaa'lin. This assertion is initially surprising since, in general, Arab Sudanese consider the West African Hausa to be socially inferior. However, Paul mentions the Fallata Melle, a large community of West Africans, Hausa, Bornu, etc. They originally migrated from Timbuktu about 1901-02, settling on the west side of the Gash Delta at Gulusit upon returning from their pilgrimage to Mecca. They adopted the Beja language, manner of dress, their characteristic curved dagger, shoulder slung sword and shield. They are "at first sight indistinguishable from the Hadendawa among whom they live and to whose administration they belong" (Ibid. 146).

The Dinka are one of the largest groups in Nilotic Sudan, and being non-Arab and non-Muslim, are generally subject to much racial discrimination. Awad al Karim, who is of this group, is the most anomalous person and one of the best knife makers in the Suq. He learned the trade as a youth and, after converting to Islam, he entered the Sudanese Army in 1960, serving as a driver for fourteen years. This was roughly the same period as the Civil War in Southern Sudan in which many of his Dinka tribesmen, among others, were in open revolt against the central government dominated by the Muslim North. Upon completion of his service, he came to Kassala and worked for eight years as an apprentice perfecting his trade. He now makes premium blades from worn out files which are fashioned into the short Garbawiya arm knives preferred by the Kabababish, camel nomads of Kordofan. They are highly sought after by the truck drivers from the west who pay LS 20-25 for a completed knife.

Al Karim is permitted to practice his trade in the Suq; but he is a relatively solitary craftsman. A Dinka youth is his helper and the two are usually too firmly engaged in the forging, smoothing and extensive cold working of the blade to socialize like other craftsmen. He is apparently not socially integrated in the market. This is probably due to his own aloofness and, as evidenced by the Reshiyda's refusal to purchase his swords, to a degree by racial prejudice. However, he has been accepted into the Suq community of craftsmen and has earned the respect of his fellows for his technical expertise. His specialization in premium blades for a remote market and their sales success shows that he, as a cultural outsider, can successfully practice his trade. There is no evidence that he works under any social or economic sanctions and it is known that he rents space from a shop owner at the going daily rate of LS 0.10 per day. By using old metal files, he is not tied to the auto leaf spring merchants' raw material supply monopoly. Thus his adaptive strategy is to practice his trade within the Suq community without becoming dependent on its production system for his economic livelihood and survival.

While the Suq is dominated by one particular ethnic subgroup, it is also remarkably democratic and tolerant of ethnic minorities. The organization of production is efficient and its economics are just. One is reminded of the equality and social justice of the medieval Islamic Guilds (Lewis, *Ibid.*), but there is no evidence that the Suq al Haddad has any ideological or historical links with those institutional forms or their successors. Ideals of brotherhood have come down through the Sufi orders, but no evidence was collected to link the Suq specifically with any of these groups. However, liberal ideals may also circulate in an amorphous state.

Institutional and organizational forms may prescribe a structural and perhaps ideological context for behavior, but it is people who validate the structure and confirm its constitution. The citizens of the Suq do not behave because of its organization, but rather the institutions exist in the Barthian sense, because of the way people behave. Behavior is based upon a set (or even a conglomeration) of values given credence and currency by collective contract and often articulated by a leader.

Mohammad Taha Ahmed is the structural leader of the Suq. It was he who first sold swords and knives in Gezira and other places and changed the Suq from a parochial to a national focus. While I have not confirmed it by primary investigation, I believe that following his accident and his subsequent change from an itinerant seller to a merchant, he worked out the export oriented organization of production. I suspect that his moral and ethical leadership contributed to the degree of social justice evidenced in the Suq and the interrelationships among the craftsmen.

It may be entirely inappropriate to credit so much to a single individual with little more to support it than intuition. However, his structural position within the leading family of the Hamesab gave legitimacy and credibility to his action and influence, but his personal character produced the content. Due to my Arabic language handicap, we were unable to talk together in a conversational manner. But I felt that this man had wisdom and an aura of justice and morality far beyond anyone I met in the Sudan. Call it Baraka or the result of inculcated family values or spiritual teaching, for whatever reason, Shaykh Ahmed is an exceptional man. He is the Sug al Haddad.

Shaykh Ahmed's behavior also may be explained not by virtue of his status as ethnic leader of the dominant Suq group, which also is the chosen ethnic blacksmiths of the Mahdiya. As the dominant group, the Hamesab are duty bound to offer hospitality and protection to those who would be their guests or perhaps clients. The higher the status of the protector, the stronger the moral obligation. Ahmed thus is ethically constrained by his status as Shaykh to protect the social and occupational interests of the Hamesab suq members and those of the minority ethnic groups also represented there. If by virtue of his status and position he is the custodian and guardian of Hamesab-smith, values which are reflected in the organization and operation of the Suq, then values of equality and social justice must be derived from an ethnic tradition and not merely from his own personal convictions. May we then still assume some ideological link with the early Islamic Guild tradition without knowing how these traditions are renewed or assume a separate tradition of brotherhood characteristic of most contemporary as well as medieval Sufi orders? The issue remains unresolved.

Potential for Industrialization of the Suq

What, if anything, does the Suq's developmental history and present situation contribute to its further development as a manufacturing enterprise? We have seen how the Suq community has changed from a traditionally organized craft guild to a complex system. The guild type production remains but it has been partially superseded by craft specialties coordinated by merchants. The guild type community has been effectively replaced by a democratic styled mutual assistance institution. The old style integrated production/organization system has thus changed into two separate production and organization systems more adaptable to high volume production and the protection of the interests of the producer community. The system has internally developed a compensatory method

to avoid the potential abuses of mercantile capitalism which developed to serve the export market. The Suq has so far avoided the dichotomization of capital and labor by retention of ownership of the means of production by the individual craftsmen. The craftsmen persist as individual producers free to sell directly to the customer or to stabilize their output by producing for sale to the merchants. The merchants may also selectively choose their association with individual craftsmen.

This adaptability, creativity and sophistication of the contemporary community and production of the Suq al Haddad aptly demonstrate that the craftsmen are not bound by cultural constraints to persist in traditional systems. The persistence of a cultural value of common good and social justice has perhaps allowed the Suq to develop its present system. The system was influenced by the one-armed merchant and developed during his career as a merchant and as the Suq Hamesab Shaykh. But what are the prospects for the future?

It is easy to postulate how the Suq could theoretically change into an industrialized enterprise accompanied by the communization of labor. A merchant or someone else with capital could acquire a new facility and equip it with electric powered drop forges, metal shears and grinders. The introduction of these industrial tools would increase production per man-hour but it would have other far-reaching consequences.

First, it would substitute machine power for manpower and in the absence of increased production; many people would be put out of work. Fewer skilled craftsmen would be needed as machine operation and utilization would dictate the flow of work, and different machine oriented skills would be required. If the daily income of the workforce were to remain the same, then the output per day would have to be increased to retire the debt for the machines and pay the new operating expenses.

Secondly, the new industry would become integrated with modern technology and the international capitalist system which services it. Dependence upon electric energy to run the machines and the import supply system to provide spare parts, lubricants, and consumable materials would make the industry vulnerable to disruptions of the unreliable infrastructure and capital markets of the Sudan.

Additionally, it can be expected that the displaced Suq workers would not acquiesce to a new industrial system which would threaten their livelihood and the acceptable system they now enjoy. They would retain considerable leverage in competing with an industrialized system. Their manual technology would still be functionally equivalent to the industrial mode and because they still own their tools, the industrial system would not enjoy a monopoly of sword and knife production technology.

Finally, those craftsmen who worked for the industrial sword and knife factory would have to give up their personal ownership of the means of production. The cost of the

machines would be too high for individual ownership and the difficulties of allocating general operation cost to individual workers would be very complicated. The workers would either become proletarianized or, through constitutional design of the enterprise, obtain some form of collective ownership. Moreover, the generally poor performance of African cooperatives would suggest that such an organizational form would not be satisfactory.

The preceding consequences suggest that industrialization of the Suq offers no advantages to the present Suq community members and would present considerable technological obstacles to anyone else who would perhaps consider it.

The key to the infeasibility of further technological reorganization is to be found in the nature of technology itself. The persistence of pre–medieval technology in the Suq is completely compatible with the manufacture of pre–medieval products. The heating, flattening and non– precision shaping of iron was the basic task of the earliest metal workers. This task has remained unchanged. In fact, with the introduction of auto leaf springs with uniform properties, even skills of metallurgy have become unnecessary. Medieval armorers were very knowledgeable of the properties of iron and steel from various geographical areas and could manipulate these variations in raw materials to produce a serviceable product (Wulff, *Ibid.*). These skills were not known by the blacksmiths of the Mahdiya, but techniques of oil quenching were learned by the Suq's sword smiths from watching the British repair locomotives in Atbara.

The swords and knives of Kassala are, thus, technically unsophisticated. They are mechanically stronger than the brittle, indigenously made weapons of the 18th and 19th century, but probably inferior to those imported from Malta and the early steel making centers of Germany, Spain, Persia and India. More importantly, they need not be more sophisticated than the cultural and practical uses of which they are put. Also since there are no functional substitutes available on the international market, there is no reason to suspect that foreign competition will affect the market or the Suq.

As long as swords and knives continue to be cultural features of contemporary Sudan, visitors to Kassala can expect to see a pre–medieval technology operating in an ethnic community setting, much as it has for the last twenty five years.

The persistence of a simple technology has permitted individual craftsmen to remain independent units of production. This independence has allowed them to avoid the pitfalls of both capitalist exploitation and the conflicts between personal and group interests characteristic of collective enterprise.

Conclusion: The Suq as a Replicable Model

We have seen that the Suq as a manufacturing enterprise exhibits certain desirable qualities of productive and economic efficiency and social equality. These qualities may be seen to arise from the organization of production and governance of the Suq. The linkage often made is that through the application of the manufacturing system and modes of organization, that the performance of the model enterprise can be replicated. This linkage may not be syllogized but rather than to debate determinant qualities of either structure or behavior/performance, I would offer another approach.

In the Suq case the needs of the production process determines both structure and behavior. Technology governs the production process and, therefore, the management of technology determines both structure and behavior. We saw in the preceding section that the product needs of very simple technology, coupled with the craftsmen's ownership and control of the tools, work place, raw materials and access to production skills, the means of production in Marxian terms, prevented anyone from gaining monopoly control of these means. The relative autonomy of the craftsmen, ready access to the market, and their continuing option to opt-out of the coordinated system while still maintaining a livelihood protected the Suq community from being dominated. Thus, it is not structure itself that is important, but the monopoly avoidance options that are built into the structure which are important. The Suq system is an indigenously developed system. It was not applied in total by some internal or external authority, as is usually the case for replicated systems. The introduction of new organizational forms and systems is always carried out in a situation of an existing economic, juridical, political and ideological environment and the new organization often becomes a new arena for the playing out of continuing local process. As in the East African cooperatives mentioned above, political processes based on competing clan loyalties often prevent the realization of the common good of the membership. Individual and factional interests subsumed the total or class interest of avoiding mercantile monopolies. Individuals could opt-out of the system, thereby reducing its effectiveness and any class solidarity. In other words, clan consciousness subsumed or obliterated class consciousness and kinship good prevents the development of a broader concept of common good.

The Suq's system, i.e., the coordinated and managed production of autonomous producers who control the means of production and have access to alternative markets, is indeed replicable. Its value is not in the behavior it prescribes, but in the alternative behavior it permits, which discourages the monopolization of critical phases of production, internal pricing and the sales of the output.

Appendix I

The Cultural and Historical Aspects of Sword and Knife Possession

The Suq al Haddad functions as a community of craftsmen and is organized into a simple and deceptively sophisticated high volume operation for a wide national market. We have considered the technical, economic and social aspects of the systems of production, but so far have neglected the cultural aspects of the products involved. In fact, it is these aspects, the cultural roles that knives and swords have played (and continue to play) in the lives of the Sudanese in general, and the Hadendawa in particular, which have kept the Suq's craftsmanship in demand.

Many traditional native crafts have been made obsolete or displaced by functionally equivalent and, in most cases, materially superior, imports or in-country manufactured import substitutions. For example, the petro-chemical industry in the Far East provides a supply of plastic water jugs, bowls, buckets, utensils and even shoes which have replaced the beautiful leather covered straw and palm baskets and bowls and most traditional footwear. Even the fired clay coffee pots (gebanna) have been partially replaced by pieces of the same design fashioned from discarded vegetable oil tins. Physically rugged items certainly have a place among nomads and coffee sellers in the market, but the traditional clay pot continues to play such an important part in the domestic ritualistic preparation and serving of coffee that it will probably remain indefinitely entrenched as a surviving traditional craft. This is not the time to explore the interrelationship between the highly developed cultural features of coffee preparation and consumption and the material apparatus which is used, but to illustrate that material culture of a society is often uncompromisingly linked to behavior. By the same token, culturally reinforced behavior is often uncompromisingly tied to specific types, designs and materials of physical culture. Functional substitutes are not acceptable. While there are specific differences between reasons for sword and knife possession, they may be linked in terms of both utility and symbolism.

Both swords and knives are chiefly items of warfare and self-defense. They are made to kill or maim in battle in support of an ideal or to assert or defend the rights of a group. An individual's possession of weapons confirms that the holder is able and prepared to defend his interests. The display of weapons as items of public dress places all others on notice that one's interests can and will be defended. In Eastern and Northern Sudan swords are worn on a strap hung over the left shoulder or, when one is mounted on a camel, it is hung from the pommel of the saddle. Most camel riding nomads are armed with a sword and a round rhinoceros hide shield (derrega).^{*} They also may carry a hide whip as a double-duty herding aid and weapon and a three foot long curved tip stick described by Burton as a modern version of the Egyptian Lis'an, the precursor of a sword (Burton 1884:32). In the West, the Baggara cattle nomads continue to carry long shafted, spade shaped spears, as well as swords, but usually no shields.

Some nomads have purchased firearms, including automatic weapons to protect their herds from bandits and inter-tribal raiders who have obtained similar weapons from warring factions in Chad, Eritrea, and elsewhere. With the exception of the Taposa, who live near the Sudan-Kenya border, pastoralists in Sudan are not becoming armed groups. Firearms are generally rare and their possession is probably limited to the contemporary equivalent to the knights of the Shukriyya of the early 18th century referred to by al-Hardallo (1975).

Historically, the acquisition of modern weapons is a technological adaptation in kind to meet an external military threat. Firearms have never become a cultural feature of Sudanese life. Even during the early battles of the Mahdi, he preferred to use the traditional weapons of the Prophet and during the final battle at Kerrari (or Omdurman in British sources) riflemen were usually former slaves from the Nilotic tribes of Southern Sudan. Paul (Ibid.) also reports that the Hadendawa under Othman Digna never got the hang of firearms use either. After the British reconquest the Mahdi's army disbanded and returned to their traditional modes of armament.

Virtually every man in rural areas and regional towns wears a knife concealed in his clothing. Residents of the West, North and Central part of the country wear the jellebeya, an ankle length flowing gown with loose fitting sleeves. These men prefer the arm dagger worn up the left sleeve and attached above the elbow with a plaited round leather arm loop (Stone 1934:21).

Nomadic peoples, including the Hadendawa, usually prefer baggy trousers topped with a hip length shirt. With this type of wear, the knives are worn tied to the waist for ease of access. In past times, knives were carried by Hadendawa on a six inch wide leather belt. Only a few men continue to prefer this style.

Travelers also are often armed and carry their knives secured above the elbow under the sleeves of loose fitting safari shirts. Some rural Hadendawa travel with swords on buses, but most everyone else carries the ubiquitous herding/walking/fighting stick. Security checks of bus travelers always yields a collection of daggers tucked under clothing or in luggage. Only in times of severe political unrest are they confiscated, however.

The ubiquity of personal arms could suggest that the Sudanese are a violent people. However, my experience has been to the contrary. Crimes like robbery and assault are

*Note: Hide shields are still made (in 1984) and one of the few remaining craftsmen, El Haj Gasim, lives in Village 2 on the Rahad Scheme. He learned his trade from his uncle whose ancestors brought it with them to Omdurman from Algeria. The trade was at its peak when the soldiers of the Mahdiya were being armed. After the Anglo-British Conquest of Sudan in 1898, the family moved to the southern rim of the Butana Plain and made and sold these articles to the pastoralists who annually use the grazing of the plain. Gasim usually makes 30-40 shields each year.

rare. Local or inner group sanctions against violence and methods of conflict resolution virtually stopped these acts. However, the intergroup rivalries and conflicts characteristic of segmentary societies leave open the chance of unfriendly encounters when one ventures abroad from the home village to travel or go to market towns. This contributes to a frontier mentality where prudence suggests that one should go armed, just in case... One old man I know always wears his sword to the market, even though the trip is no more than 600 yards. He projects the image that he is ready to settle old disputes and is not afraid to contract new ones if the situation dictates.

Sir Richard Burton's comments on another society holds a similar sentiment, "As soon as the sword ceased to be worn in France, a Frenchman said of his compatriots that the politest people in Europe had suddenly become the rudest" (1884:XVI).

Interethnic rivalries in the form of small-scale camel raiding still occurs in the vast lawless Butana countryside away from more settled orbits of the police force. Vigilantism remains popular. One recent occurrence related to me involved a mounted chase of camel thieves followed by a reported four-hour hand-to-hand sword and shield battle. The fray eventually ended with handgun fire and the stolen property was recovered.

Samuel Baker, in his report of a hunting expedition through Eastern Sudan in 1861, comments that "...the Arabs have not the slightest knowledge of swordsmanship; they never parry with the blade, but trust entirely to the shield, and content themselves with slashing either at their adversary or at the animal that he rides; one good cut delivered by a powerful arm would sever a man at the waist like a carrot" (Baker 1867:170). Apparently in the interim the swordsmen have improved their skills. Older men can now demonstrate considerable tactical skill in point fighting, often preferring to fight from a crouched position. These skills are passed on to the young men who practice and demonstrate their dexterity in stylized dances as part of wedding celebrations. Hadendawa appear to prefer a leaping and hacking attack and, as a young man confided, "the ability to jump high is very important". The Beni Amir seem to be more accomplished at crouched point fighting with deft thrusts. These exhibitions are very convincing and demonstrate, should the need arise, that the family could be well defended. Individual competition at the celebrations also allow the young men to show off their athletic skill and grace in choreographed mock combat.

The sword is somewhat less prominent in the weddings of wealthy, urbanized Sudanese. Often Western features such as the white wedding gown are incorporated into the ceremony, but sword brandishing is still an important feature of the traditional part of the celebration. Among many families, the father of the groom presents his son with a gift of a sword and a Quran. The Quran symbolizes this Islamic way of life, and the sword connotes the determination to fight for its preservation.

Blandishment of swords and fighting sticks are an integral part of other religious observances. The group dancing and chanting of the dikhr of tariqa's (periodic communal celebrations of Islamic Sufi or mystical religious orders) features the raising and shaking of swords and sticks to emphasize certain parts.



Fig. 9 Dancers at Hadendawa Wedding Celebration, Kassala, April, 1984

The possession and actual or ceremonial use of swords are a fundamental and embedded feature of traditional and contemporary Arab Sudanese culture. They ceased to be a feature of national defense when their military efficacy was made obsolete by the Anglo-Egyptian forces' use of repeating firearms. In 1898 at the Battle of Omdurman (Kerreri), the Mahdist force of 52,000 men suffered 10,800 killed and an estimated 16,000 wounded in a slaughter termed "the most spectacular triumph yet achieved in a war by weapons of precision over the spear, the sword and old fashioned musket" (Theobald 1965:234). "For sheer fighting spirit and valor, the Mahdists on that day won a glory that will never fade (Ibid.:235).

The "re-conquest" of Sudan ended the milestone era (one of glory and destruction) of Sudanese history and it could also be called the end of the era of the sword. Just nine years before in the Sudanese-Abyssinian War, the combined armies of over 50,000 met at Gallabat. It was the last time in the history of the world "where the issue was primarily decided by the thrust of a spear and the blow of a sword; where individual strength and skill were still necessary; where a battle was a purely physical test between two masses of humanity. At the end of the nineteenth century, in a remote corner of Africa, two armies fought it out toe to toe in the traditional medieval manner (Ibid.:156). Memories of these past "toe to toe" battles and the, albeit small-scale, contemporary occurrences contribute to the survival of the strong frontier mentality and attitudes in a modernizing Sudan. The persistence of these attitudes and occurrences assures a continued market for the new swords and knives produced in Kassala.

Appendix II

The Cultural History of the Weapons Manufactured at the Suq al Haddad in Kassala, Sudan

In the main body and preceding Appendix the items of production and use could have been virtually any sword and any knife. Yet the products/weapons/cultural elements exhibit specific and enduring designs and motifs which are integral parts of the ethnic identity of those who own, use and want them. This duality, in terms of utility and symbolism, contributes to their persistence.

The developmental history of items of material culture is often difficult to trace due to the discontinuity of sources. In this presentation, scattered primary and secondary material, as well as the oral traditions of the Suq craftsmen have been used with generally rewarding effect, but important details are probably lost forever in the mists of time and faded memories. However, in one instance I was able to discuss the origins, history and myths of one significant item, the Hadendawa Soa'tal fighting knife, from the man who invented it. In this one instance it is possible to avoid presumptions of stylistic legacies and origins and find out what the inventor was thinking when he made the first one.

Swords

The Sudanese Long Sword

The origin of the Sudanese sword is obscure. Baker believes that its style was influenced by the crusaders who penetrated the Red Sea Coast in 1183 A.D. They "left an impression behind them and established a fashion" (Baker 1867:169). Stone shows a picture of a Kaskara sword carried by the Baghirmi warriors of the 16th-19th century Sultanate which lay southwest of Lake Chad. The blade dates from A.D. 967 (1934:339), but the cross guard, hilt and scabbard are identical in appearance to several mid-20th century swords in the Shangiti Collection at the University of Khartoum. The cross guard is said to be of European style (Tarassuk 1982:291f), but examination of samples of crusader swords in European museums show a pierced cross guard unlike the characteristic design of Sudanese swords. Turkish and Persian cross guards and even those on curved bladed swords in the Topkapi Museum in Istanbul are said to have belonged to the Prophet Mohammed and his companions, more closely resemble the cross guards of the Baghirmi swords than the European design.

Burton reports that the Knights of Malta exported great quantities of straight, double edged blades to Benghazi. From Tripolitania they entered the trans-Saharan trade to Bornu, Hausa-land and Kano, where they were remounted for use by the negroid Muslim population (Ibid.:162). The theory that the straight bladed sword entered Sudan from North and Central Africa and not the east is supported by a report from Father Alvarez

that said the Abyssinians had very few swords in the early 16th century (Ibid.:163). Burton also says that Solingen in Germany seems to supply all of Africa north of the Equator with sword blades (Ibid.).

Historical references trace the use of swords in eastern Sudan. In 1317 a Fatimid army encountered a local people in the Kassala area armed with swords, spears and arrows (Hasan 1973:77). The Shukriyya gained ascendancy over the Butana in 1720 in an epic sword battle when their hero Abu Ali defeated the hero of the Batahin, Sigud, and captured his famous sword, "al-Nena" (al-Hardallo 1975:132-135).

Nineteenth century travelers into the area provide additional documentation. Baker describes the Hamran Arab elephant hunters (agageers) who immobilize their prey with hamstringing cuts with their swords. Parkyns describes primitive Barea of western Eritrea in 1854 as being armed with a very poor lance, a formidable double edged crossed-handled broad sword and a round shield with a boss for the hand (Pankhurst 1977).

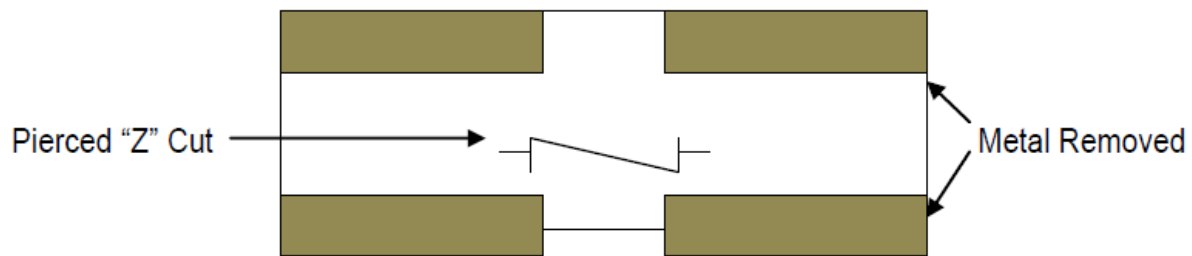
As items of long distance trade, sword blades from Europe, India and the Near East have reached Central and Northeast Africa since the 14th century, but apparently local blade manufacture is a relatively recent innovation. Those made in Sudan as late as the Mahdiya (1883 - 1899) were of forged iron and very brittle, often breaking in the clash of battle. For this reason, swords of Turkish, Egyptian and British origin were highly sought and prized. The breakage problem also no doubt influenced Othman Digna to request the Hamesab blacksmiths to make an auxiliary short sword, the Ansari, as mentioned above.

During the early period of the Mahdiya, swords were in general short supply. Many Hadendawa used their hooked knife, the Khanjar, and short narrow bladed spear, the Harb, against the British. Informants among the Kassala blacksmiths said that most Mahdists in the early battles used swords fashioned of wood. They followed their better armed companions into battle, replacing their wooden weapons with ones of steel from fallen comrades and foes alike. The informants took delight in relating the ruse and telling of the horror the British led Egyptian troops expressed in seeing the sea of weapons, mostly wooden, being waged by screaming, attacking prosecutors of the jihad.

Sword Variations

The basic Sudanese sword has probably remained essentially unchanged since the 16th century. Swords of the Mahdiya on display in the Khalifa's House Museum in Omdurman are virtually identical to those being made in 1984 in Kassala and in Atbara. The scabbard of the exhibited swords have a thin wooden inner form, while the contemporary ones use cardboard from a factory built by the Soviets since World War II at Aroma. The scabbards of northern Sudan also differ slightly from those made in Kassala. Other individual variations are found in cross guards and blade details. Forms never vary. The cross guards give the Sudanese/Kaskara swords their distinctiveness. Those with a flair or expanding taper outward from the blade are said to be very old and of preferred shape. Blacksmiths now try to duplicate the shape, but cannot. The guards were once made in four parts with vertical pieces being forge-welded to a set of matching cross

pieces. In 1943 Mohammad Tamaanye became the first person to forge the entire guard from a single piece, using flattened angle iron. The center of a rectangular piece is pierced by a Z type cut as shown below and the long sides are forged to the cross shape. The short stubs form the handle attachment and the other pieces which parallel the blade. The one piece aspect of the guard is probably the reason the cross flare is no longer possible; there isn't enough metal. If the cut-outs were tapered outward from the Z, more metal would be available, but getting the flair still would require considerable skill.



The tips of the cross guards are found in three styles. The most difficult to make is the six sided style and is known as the "Samanniya: after the largest Sufi order in Sudan. The "Mutamaan" has a diamond shape at the ends, but has eight facets, hence the name deriving from the Arabic word for eight, tamaanye. It is the most common style. The "Sennariya" has tips which taper down to a sort of a flattened chisel end. It is named for the city of Sennar, the former capital of the Medieval Fung kingdom. This type is most commonly found on swords made in Atbara (the headquarters of the Sudan Railway Shops which has a modern metal working tradition, a ready source of material, and no doubt a sword making industry).

Blades also exhibit variations in engraving and ornamentation. The blacksmiths say that the grooves provide the blade with more spring and less weight. Burton confirms this (Ibid.), but the technical reasons will be neglected here. The wide full length groove or dished out blade is called khar (channel or canal). Those with a narrow pencil sized groove are called khar hongoo (straw canal). The Suliman has a smaller full length channel and the Suliman Mukhamus has five small grooves.

Embossed symbols also play a role in sword lore. A Suliman with five grooves extending for about a third of the blade length followed by a rayed circle is a Suliman Abu Shammish (father of the Sun). A profile of a European king is embossed on an old iron sword in the Shangeti Collection. Informants in Kassala speculated that it came from Ethiopia, but it could be of European origin. Other signs hold symbolic magic. They include: a rampant lion (like the Peugeot auto symbol), called a Dukare affringe for brave men; $\oplus\circ$ a drum to build up courage; and a fly dubanso the user can jump like a fly when fighting.

Acid etching is sometimes used to inscribe the blades with slogans and designs. Passages from the Quran are common as well as pledges to Allah for swift victory in battle. Lions, flowers and a crescent moon with a man's profile in it were favorites of a Kassala craftsman who died in the 1960's.

Reshayda Swords

The Reshayda came to the Sudan from Saudi Arabia in the 19th century, during the time of Abd al Aziz's reign. They have remained aloof from the host population and carry their traditional sword exclusively. It is single edged and shaped like a heavy cutlass rather than the thinner more graceful swords of medieval Arabia. The only maker of these swords in Sudan, as described above, works in the Kassala Suq.

Knives

Knives play a different cultural role and utilitarian function than swords. They are usually carried constantly and used to perform mundane chores like cutting food, trimming fingernails or ritually cutting an animal's throat while its head is turned toward Mecca. Certain designs are intended for fighting, like the Khanjar, Ansari and Soat'al, but they could also slice a melon like any other.

The Hadendawa relied on the bow and arrow in earliest times and later changed to the spear and knife before adopting the sword from the Arabs about A.D. 1700 (Paul Ibid.). A shortage of raw materials and perhaps preference for "close encounters" and the handiness of a short bladed weapon contributed to the retention of the long knife over the centuries.

Khanjar

The Khanjar (Figure 8a) is the traditional Hadendawa edged weapon used for personal defense. It was in use before Christianity and Islam came to the area. It was also the principal weapon (along with the Barb (spear) used by Othman Digna's forces in engagements with the British at Suakin during the period of the Mahdiya.

Local informants report that the Khanjar is depicted in Egyptian and Meroitic hieroglyphs and in rock paintings in the Butana. Burton confirms this with an illustration of a short sickle sword, the Khopsh, Kepsh or Khepshi as one of four Egyptian hieroglyphic characters which represent the word sword.

The shape of the Khanjar probably derived from the Khopsh type knife or a shorter version of a similar sickle bladed shotal from Abyssinia (see Tarakkuk 1982:25). But its hooked shape blade is in itself unique. The blade is about 14 inches long, including the hook, from 1 to 1-1/4 inches wide. It is of a flattened diamond in cross section and double edged. It is worn at the waist in a padded leather covered sheath attached to a six inch wide leather belt. The handle is of carved ebony and shaped like a fat hourglass. The handle may be gripped conventionally or held at the bottom by the first and second

fingers of the hand on either side of the handle and clasped into a fist. The two fingered grip provides a more fluid slashing motion and facilitates the hook portion in reaching a mounted opponent's ankles and wrists. This method of Hadendawa warfare was particularly effective on British and Egyptian cavalry.

The term Khanjar is used to describe curved bladed daggers from India and Persia (Diagram Group 1980:30). Stone lists alternative spellings, including Konjar, Handschar and Kantschar, attributing the word to Arabic origin meaning knife or dagger (Ibid.:351f). The Khanjar is seldom seen in use today, but a Suq smith since 1937 remembered his past daily production as five in 1940, ten in 1960 and virtually none in 1980.

Jumbawiya

The jumbawi (Figure 8b) is the most common product of the Suq and is the style of choice of most Hadendawa. Its origin is attributed to one Abu Ali Balid of Tokar who made the curved blade during the time of Othman Digna. The distinctive handle looking like back to back "C's" is an exaggerated and stylistic development of the khanjar grip. It, too, is held most effectively by the two finger grip.

Ansariya or Jerda

A straight blade version (eight inches) of the Jumbawiya, the Jerda was popular in the mid-19th century. According to Suq informants, the British Commander Colonel Hicks, whose army was destroyed in the first major battle of the Mahdiya, commented that he was as strong as the Jerda.

This blade design was elongated to about 13 inches and finished at the tip with a leaf shape (Figure 8c) to become the Ansari. Tradition has it that Othman Digna commissioned the new short sword as an auxiliary weapon to be used if the long sword was dropped or if its blade was broken in battle. The sword was worn strapped diagonally across the chest in a shortened scabbard of the traditional leaf tip design. The handle was a lengthened version of the khanjar without the sweeping curves of the Jumbawiya.

Original examples of this sword are very rare. In fact, only one example is known to exist. After the re-conquest, this type of weapon was no longer necessary because it did not fit the normal fighting style of the Hadendawa. The blade length was reduced to the size of the original Jerda, but the leaf or broadened end was retained. This shortened version is likewise called the Ansariya in conversation of the original followers of the Mahdi, the Ansar and is a current product of the Suq.

Soat'al

The Soat'al is stylistically the most distinctive and lethal appearing of the Hadendawa fighting knife designs (Figure 8e). It represents a unique opportunity to examine the origin of a traditional craft item in that the innovator is still alive, although he is now in retirement.

Tahir Karrar, born in 1902, designed the Soat'al in Kassala in 1916. He was the son of a blacksmith who had made Khanjars, Ansari and Harba for Othman Digna's army and he

entered the trade as a youth. He says that at the age of 14 he was forging a Khanjar blade and by accident gave the blade a backward curve. The shape appealed to him and he experimented and refined the design. The maker of the first handle was Mohammad Oshe, an Arthega from the Red Sea.

The knife was very popular in this period of inter-tribal violence. The Khanjar's hooked blade makes it slow to draw from its sheath. The Soat'al on the other hand can be pulled from its case and be brought into action with lightning speed.

The Soat'al has developed an international following, being subsequently manufactured in Suakin and at Agordat in the Eritrean province of Ethiopia. Hadendawa and their fellow ethnic Beja neighbors, the Beni Amir, as well as the ethnically unrelated Baria and Baza of southwestern Eritrea, used the Soat'al. However, the Rashayda preferred their traditional Judami and the Gaaline and Shukriya retained the Duriear arm-knives to augment their swords.

The knife also became the regimental side arm of a unit of British commanded Hajana or camel corps. Memories vary as to the names and circumstances, but both versions will be given in the hopes that British regimental historians will be able to identify the actors. Karrar said that Mr. Cook bought 200 Soat'al to equip a unit of camel corps. The unit proceeded from Kassala to Atbara, where they subsequently fought in Tripoli. He said that the knives were also used in the campaign against Ali Dinar, the last Sultan of Dar Fur, in 1916. In another version, the initial purchasers were British soldiers, Safil and Hogg, who each bought a knife and one other to send to a Mr. Cumball in England. The two soldiers carried their knives into battle and they were the only survivors. They attributed their success to the Soat'al. They subsequently returned to Kassala and ordered 200 more knives. (Note: An inquiry was submitted by the author to the UK's National Army Museum and a reply of 27 Sept. 1988 stated that no references to the men in question were found in their First World War book indexes. Perhaps a reader could inquire into histories of the Sudan Campaign and British occupation prior to WW1.)

The name Soat'al is a Hadendawa word for liver. It is said that one slice with the knife will cut a man to his liver. The name is said to have originated when the knife was thrown at a lion and severed its liver in two parts. The "Arabic" term of reference is Shotal and is virtually identical to the name of the Abyssian sickle sword discussed above.

These stories taken at face value are interesting details of ethnic material history. Their retention as elements of oral tradition continues to glorify the inventor of the fighting knife. The feats of prowess performed by wielders of the weapon attest to its martial utility. From a merchandizing perspective, endorsements from professional soldiers and first hand testimony of its mechanical gutting properties would certainly be expected to enhance the fighting knife's desirability to a prospective buyer. Culturally it comprises a body of incipient myth, which, probably upon the death of Karrar, will enter Hadendawa folklore.

The Soat'al is seldom worn as an item of daily street dress, but has assumed a more symbolic character. It has been adopted as the symbol of the Eastern Military Region of the Sudan and is seen on flags and banners. A steel replica is on a gate of the military headquarters in Gedaref. The motif is also incorporated on the characteristic ebony Hadendawa combs as well as on award plaques alongside (Figure 3) an eagle, the Sudanese national symbol, presented to visiting dignitaries and international sports figures. No other item of Sudanese material culture, with the possible exception of the "Crusader's" broad sword which is not an indigenous style, has survived the transition from utility to symbolism. Tahir Karrar is justifiably proud.

Judami

The Judami (Figure 8d) has a curved blade and is preferred by the Reshayda, especially if the blade is wider. It is very similar to the Jambiya common in Arabia, the Reshiyda's native land. Before about 1960 the Reshayda purchased blades from the Suq, but imported handles from Yemen. The Suq craftsmen began making handles acceptable to the Reshayda and soon captured that market. Many others prefer the shape because it is easier to grip than the Jumbawiya and the handle doesn't dig into one's side, as does the big "horns" of the double "C's".

Garbawiya

The Garbawiya is preferred by the Baggara and Kababish pastoralists of Western Sudan. The relatively short knife, about eight inches overall, has a double edged blade straight to a sharp point and a "fat hourglass" grip. Its size and design is more appropriate for an arm knife than the flaring double "C" of the Jumbawiya. Premium blade makers like the Dinka and his teacher, Abu Negmah (father of stars), produce these specialized blades.

Duraiear

The Duraiear is a longer version of the Garbawiya and retains the same type of grip. It is preferred by the many in western regions of Sudan. The blade has paralleled edges for most of its length before transforming to a curved taper to the point. There is little difference between these blades and the straight bladed Judami and Jumbawiya. The grips are the main differentiation. On some specimens the blade tang extends through the grip and is secured with a small washer and brad.

Other Products of the Suq

Several other products of the Suq have been mentioned throughout this paper. Camel saddles, agricultural hand tools, sheet metal and tin commercial items, and wood carving art are practiced in addition to knife and sword making. The wood art warrants elaboration, as does spear making.

Wood art consists of those items other than general product line knife grips which are made as a novelty or sideline. Most of these items are produced by two gifted young craftsmen as an outlet for artistic talents. Elaborate combs (Figure 3) incorporating Soat'al motifs and novelty knife handles are favorite items made by Tahir Nafersen



Fig. 10 Spear smith

Ahmed. He also makes some of the tiny (two inch) knives sold as mementoes. They are to be worn by Sudanese who are going out of the country so that they will remember Sudan and Islam. They are also popular souvenirs with western tourists and are often given for change in folklore shops in Khartoum.

Spears

The short spear is still made by O'Haj Mohammad Din, my informant's uncle. He and his son are the only remaining producers of the traditional weapon of the Beja. While the sword has replaced it as the culturally reinforced large weapon of choice, the spear is still preferred by the tough, steely-eyed Beni Amir who roam the hilly wastes of northern Eritrea to the east of Kassala.

Unlike the long shaft broad leaf or spade shaped spear of the mounted Baggara of Western Sudan, the Beja spear is designed for use by pedestrians. The wooden shafts are about a meter long and steel spear points are attached to each end. The narrow killing blade is about 20 inches, tapering from two inches to a sword tip. It has a center reinforcing rib. The other end is an 18 inch long round piece formed by forging and welding a rod in a pointed tapered spiral.

Informants say that the flat blade is used if one wants to kill an animal and the piercing round end is used if only wounding is the goal. It appears to me that this weapon is lethal at both ends. The length and balance of the spear makes it easy to carry, an aid in walking and highly effective for thrusting, short range throwing and in defense of a sword attack.

The craftsmen of the Suq al Haddad in Kassala are, indeed, the producers of a major portion of Hadendawa and other ethnic groups' material culture. They are also innovators and creators of new culture, as attested by the success of the Soat'al and new designs for traditional combs. After serving for hundreds of years as the traditional fighting knife of the Hadendawa, the Khanjar was over a period of fifty years gradually replaced by the Soat'al. The new knife was technically superior, easier to bring into action and was promoted by an advocate, its inventor. As professional craftsmen, the makers of culture are also the makers of products which people buy. When items are no longer purchased, they become relegated to a realm of cultural history displaced by items of contemporary value.



Fig. 11 Hadendawa Warriors (date of photograph unknown)

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