

CASTING METHODS & SPECIALTY FOOTWEAR

CHAPTER 15

SPECIALTY FOOTWEAR



SPECIALTY FOOTWEAR

Specialty footwear is any shoe, boot or sandal which requires changes from our normal and simple styles. Any design changes, changes in materials, modifications or non-standard color selection are considered to be specialty orders. Therefore, it is important for the customer and artisan/footwear maker to agree upon changes at the time of order.

Pictures 1 and 2 are the boot of a gentleman who had a serious accident during the WWII period. His foot was saved but a lot of bones were removed during the surgery. He lived in a town where a Doctor of Podiatry had a family shoe store. The doctor was associated with the Murrays and their SPACE SHOES. The doctor took a cast of the gentleman's feet and sent the casts off to the Murrays. The Murrays made many shoes and boots for this gentlemen over the years.

The gentleman told me that the doctor was willing to work with him so he bought many shoes (boots). Each time his gait improved and his foot felt better. Apparently, this was a difficult case for the doctor and the Murrays. I assume that it was hard to determine at first glance what to do to achieve immediate perfection.

I think there are some invisible balance and stability issues internally in the foot. I think the Murrays did a lot of wonderful work for this gentleman and many other people.

The gentleman told me the doctor once said to him, "We will keep trying to get each pair better, but you might have to buy 10 pair before we learn how to provide you with total use and comfort." The gentleman said to me, "He did buy a lot of shoes (boots) and they did get better." He even had the Murrays make him a pair of ski boots and he was still wearing them more than 50 years later.

When my mother and I purchased the rights of the Murray Space Shoe businesses from Mrs. Lucile Marsh Murray in 1979, we inherited this gentleman as a customer. The doctor sent us a cast of this gentleman's feet. I made a pair of shoes (boots) which I thought were ok because I was given one of the Murrays' best pair to look at. Therefore, I had a head start or advantage of the Murrays' experience. But, I got a call from the doctor and he said the gentleman would like to talk to me. I talked to the gentleman. I listened to what he said. I replied, "I am willing to make the shoes (boots) over for you without charge, but you need to come see me. Let me see your feet and do my own casting. He agreed. He came. I listened to him. I saw his feet, how he walked and many more of his previous pairs.

I cast the gentleman and made him the boots in picture 1 and 2. I have been making boots for him for more than 30 years. I still use the same cast with some slight modifications as he ages. Luckily, I have had no major problems or remakes.

About five years ago, this gentleman shared an experience he had had while playing golf. He said an orthopedic surgeon had joined his foursome. About the end of the game, the orthopedic surgeon asked him what was wrong with his foot. He said he was in an accident and the doctors removed the talus etc. He said the orthopedic surgeon looked at him and said, "No one who had a talusectomy that long ago is still walking today. And, you have just given me a pretty good game of golf."

The gentleman told the orthopedic surgeon that he had found shoemakers who were willing to work with him. And, that they have made it possible for him to walk in comfort.

This experience, and others in my custom molded footwear making career, taught me that it is very important for the footwear maker to observe and talk to the client or customer directly. The footwear maker should be present at the time of casting or be the caster.

Therefore, I developed some rules for myself.

- 1) No third party intermediaries!
- 2) All customers must come to see me to place their first order and be cast by me!
- 3) No exceptions!

Some specialty footwear can be easy to make, some can be a real challenge, and some can be a complete failure! It takes time to learn any art or craft. The fabrication skills are fairly simple, but the know how for all the different clients is not so easy to acquire. Many times it can be pure trial and error or plain luck to be able to satisfy a client or customer.

The hard part is that you can put a lot of work and energy into each project. And, you will never know the outcome until you are completely finished. Then the client or customer is your judge.

This chapter is devoted to examples of specialty footwear I have made and repaired. It is only a small percentage of my work, because most of the time I was so busy working that taking pictures of everything I did was not on my list of priorities.

This chapter has a lot of pictures of oddly shaped shoes, boots and sandals. The purpose of this chapter is to make sure you fully understand the connection of the cast or last to the footwear.

It is now time to really connect in your mind the importance of the cast or last to the shoe, boot or sandal. Everything else is secondary!

Remember, the cast or last makes the shape of the inside of the shoe, boot or sandal because the molded shoe processes make the shoe, boot or sandal from the inside outward. When you look at the cast or last, you should be able to visualize the inside shape of the shoe, boot or sandal.

Because "good" molded footwear is specific to an individual foot, we could almost, describe all "good" molded footwear as specialty footwear. The meaning of "standard" molded footwear is really only a designation of a simple and easy to make outer design style for the exclusive purpose of pricing.

Please take some time to observe the diversities in our human population. I hope you develop compassion for everyone including those less fortunate in physical attributes. I think we are all lucky to be able to live on planet Earth, even if it is for a short time.



1 The right boot is for the uninjured foot. The left boot helps the customer to stand and walk in a balanced and comfortable position.



2 I am sure the doctors who did the reconstructive surgery did their very best. But, sometimes putting the human body back together again is very challenging. This is an example of how custom molded footwear can help the wearer.



3 The right boot has more than four inches of a dummy front, because that much of the foot was amputated after an accident.



4 The left leg is short and the person needs a heel lift.



5 The wearer just has badly distorted feet.



6 A pair of shoes with a non wedge heel. The soles have been removed. This could be done for the purpose of relieving pressure under the arch. The effect is that support under the arch is reduced and that may be good or bad.



7 This client may have had some polio. She also broke her ankle when young, and she never received medical attention. She lived with this hardship until she was about 97 year old. This was her first pair of custom made boots.



8 These boots gave her better balance. She walked for two more years. She wore these boots almost to the end. She passed away a few weeks before becoming 100 years old. She was a remarkable customer with a great disposition.



9 This shoe was made for a non mobile knee and a short leg. The yard stick indicates the leg so you can see how the bottom of the sole is rounded for the easiest gait possible.



10 This is the pair.



11 This customer needed an open toes sandal with maximum support, but had severe swelling which changed a lot because of diabetes.



12 Notice the sandal is flat, but the sole has a rock at toe and heel.



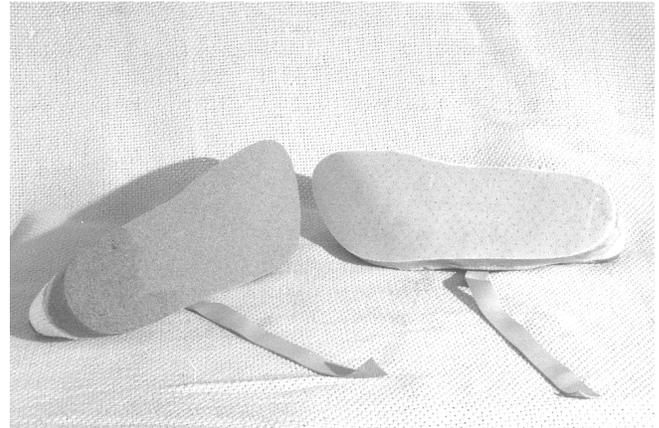
13 View of the inside shape of the sandal and the removable diabetic insert of Plastazote®.



14 Another sandal in the making, which required a very soft covering over the toes (no sock only very thin lining leather and a thin soft outer leather).



15 Medial view of sandals. The left sandal has a 1/8" fiberglass stiffener under the "mud" base to keep the shoe from flexing. The right sandal has a 1/8" cork lift under "mud" base to keep the height equal.



16 View of bottoms. The darker area around back of heels is from the application of a thin coat of fiberglass resin.



17 Now leathered and soled, this pair has modified heel wedges without a heel lift and a very pronounced ball to toe angle in order to compensate for the inflexibility of the foot.



18 The back of heel wedge has a small rocker design added into it.



19 Notice the bottom back of heel wedge which has a rounded taper to aid in the heel strike. All these modifications were per the doctor's request. The doctor was the customer.



20 A view of the same styles, one has Velcro® top straps and one has a buckle top strap.



21 Ditto.



22 A view of similar sandal styles with different strap designs.



23 Ditto.



24 A view of three different shoes made from a proprietary Medathane® heel cushion block material for maximum cushion in the midsole area and for the insert. The blocks are available from Kingsley® 800-824-9704.

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25 The use of the general Lielani sandal design with Velcro® straps and no cut outs.



26 Ditto.



27 A pair of shoes for a customer with polio. Polio was a terrible epidemic until medicine found an answer. The Murray Space Shoe®s never cure a problem, but they do allow people with polio to function a lot better than other footwear.



28 Ditto.



29 Ditto.



30 Ditto.



31 Ditto.



32 Another pair for the same customer. These shoes provide better balance, stability and comfort for the wearer.



33 Ditto.



34 Ditto.



35 Ditto.



36 Ditto.



37 I have done a lot of successful work for people with polio and they have been so thankful. Being able to walk with some degree of comfort is a privilege.



38 A light weight running flat.



39 A pair of old shoes. Notice the folds and creases in the top leather and the stretch around the ankles. The shoes have taken a final molding from use by the wearer.



40 A new pair of shoes for the same customer. Notice the snugness built into the top opening around ankle and heel.



41 A pair of shoes covered with fabric instead of leather. It is also very easy to make all-vegan footwear.



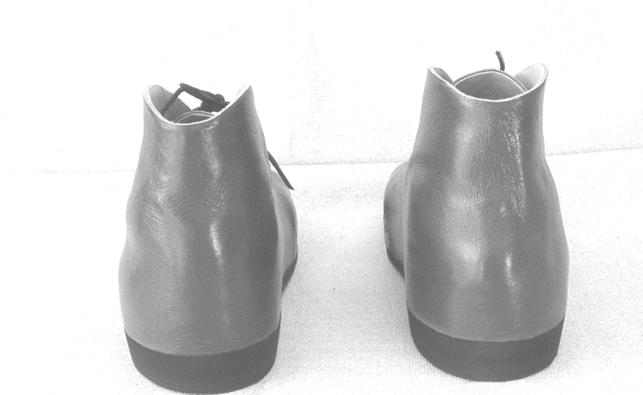
42 Ditto.



43 A pair of boots for a crushed heel injury. The fully opening design was needed because of extreme tenderness of heel area.



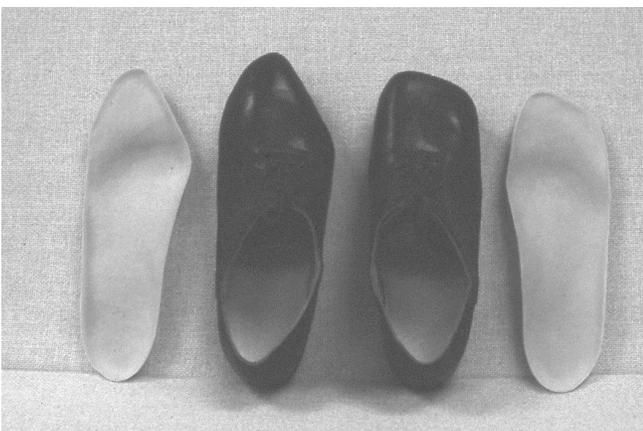
44 Ditto.



45 Ditto.



46 Very distorted feet. Look at the casts or lasts. Look at the toe areas.



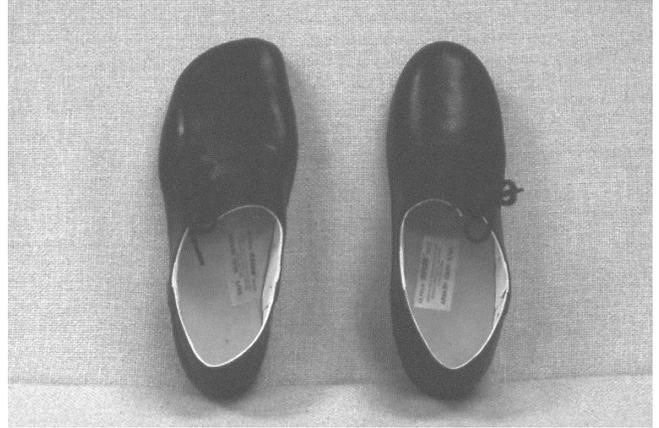
47 Some people have very unique foot problems. The molded shoe shaping processes can accommodate almost anything as pertaining to shape and size.



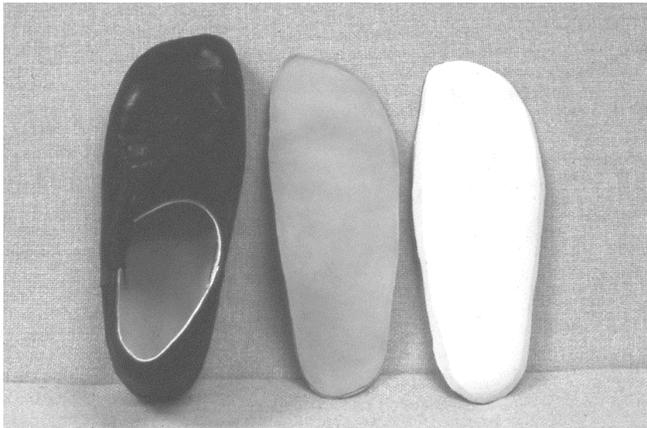
48 Ditto.



49 A strap and buckle instead of laces.



50 Another unique pair of feet.



51 Same left shoe as picture 50. The correct choice of insert material can be critical to the wearer's comfort. Sometimes these inserts need to be adjusted and modified. The footwear maker can't know everything until the wearer comments.



52 Another very unique pair of shoes.



53 Ditto.



54 Ditto.



55 Just observe.



56 Ditto.



57 Ditto.



58 Just observe.



59 Ditto.



60 Ditto.



61 Just observe.



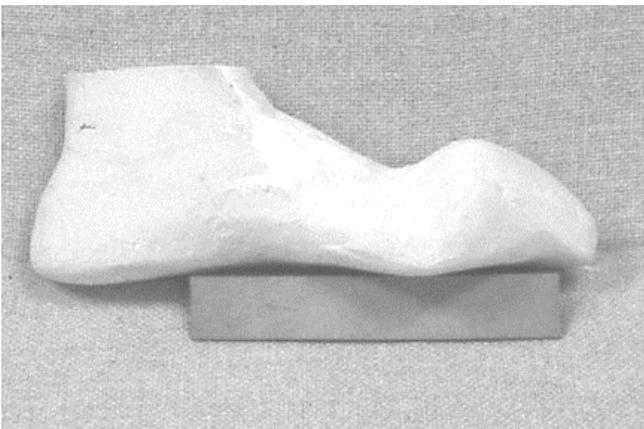
62 Ditto.



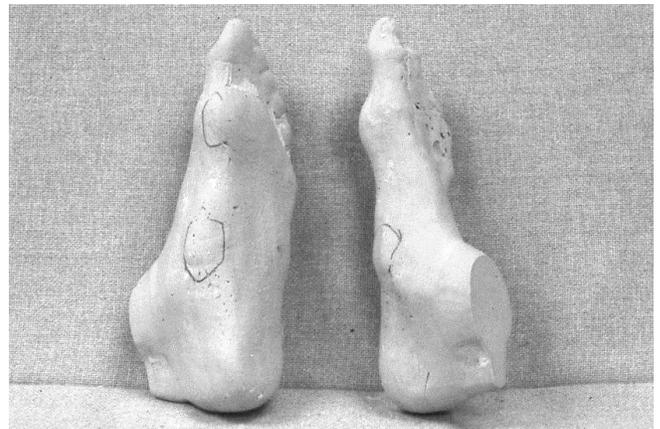
63 Ditto.



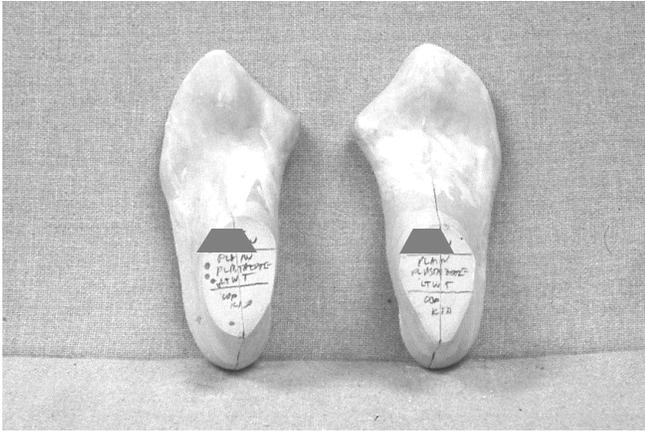
64 Ditto.



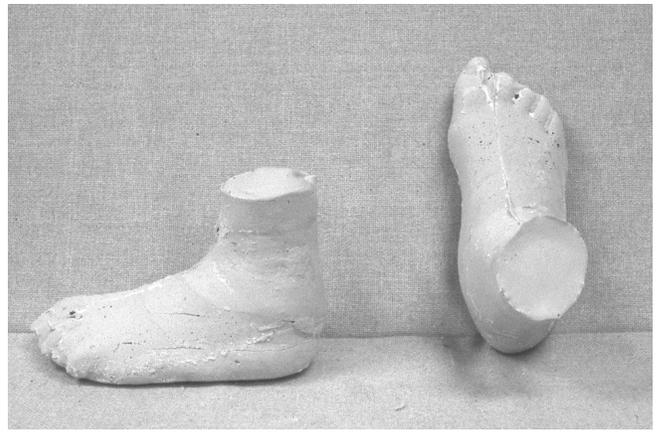
65 The form for making good specialty footwear is in the last!!!



66 This unique cast has to be turned into a last.



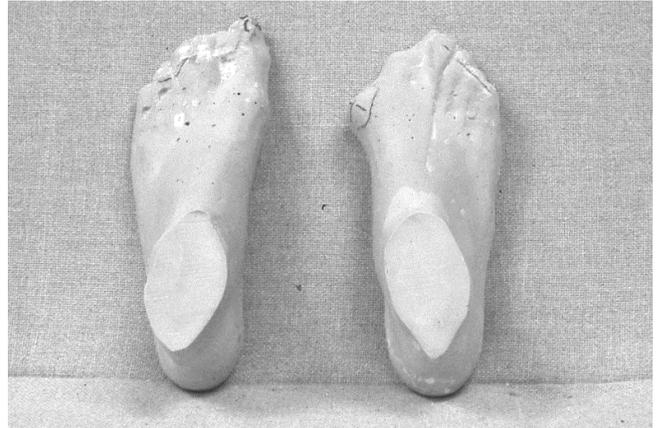
67 This is a last. The cast has been modified.



68 A pair of casts.



69 This is a last.



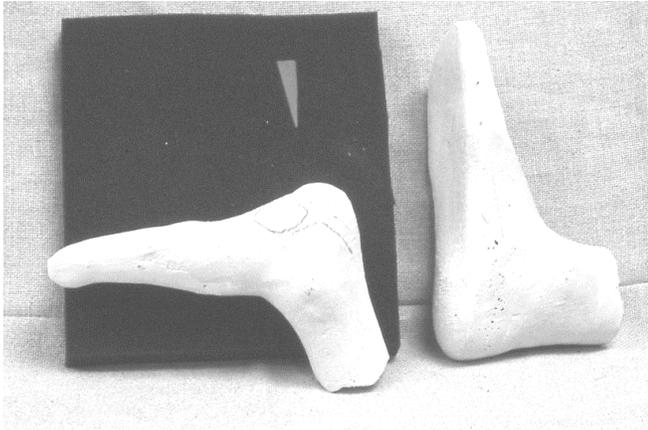
70 This is a pair of casts.



71 This is a pair of lasts.



72 .This is a last of a cast of a foot with a partial amputation.



73 Here is the result of an automobile accident. The best of surgeons could only do so much, but they did save the foot. And, 30 years later, I still have a happy customer who can walk, work and dance.



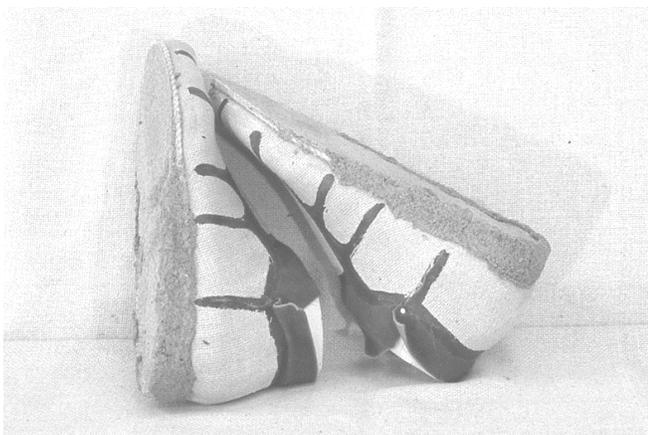
74 Custom made molded footwear are a Godsend (a present sent from God) for a lot of people.



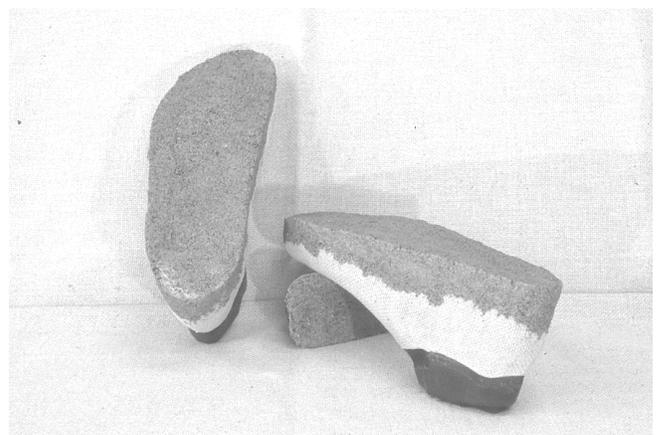
75 Once the last has been perfected, the remainder of the success of molded footwear will be found in the quality of the supporting base!!!
Please re-read the previous sentence.



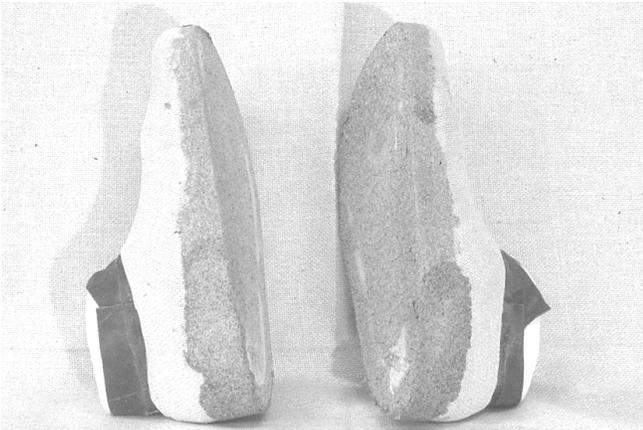
76 Ditto.



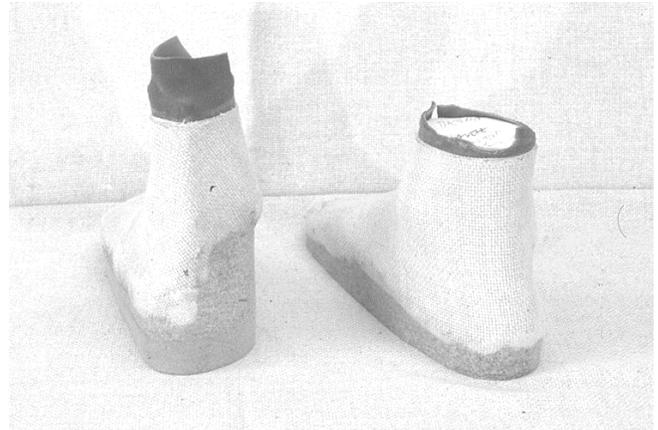
77 What can be done to a base is only limited by the mind of the craftsperson. The base can be reworked and modified over and over again.



78 Ditto.



79 Ditto.



80 Ditto.



81 Working with the needs of all customers is not easy. It requires the ability to see or imagine ahead of time before something needs to be done. It requires the ability to think about alternative directions in which to work out problems.



82 This customer needs medial ankle support and softness around the ankles. Therefore, the boots will have strengthening only where needed. This customer obviously has a non-normal gait.



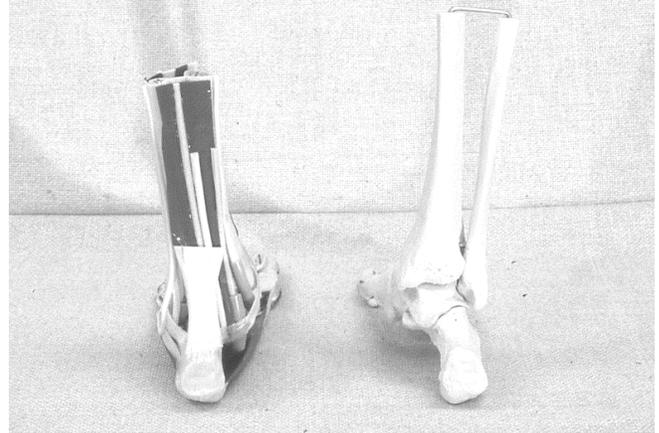
83 Additionally, this person needs softness over the front of the foot. A soft leather will help avoid deep and hard creasing on the front of the boots, especially over top of the toes.



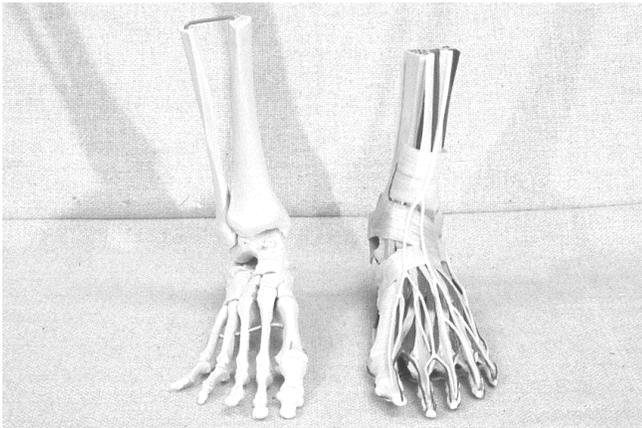
84 The finished boots. These boots are flat. No heel wedge has been used in the fabrication.



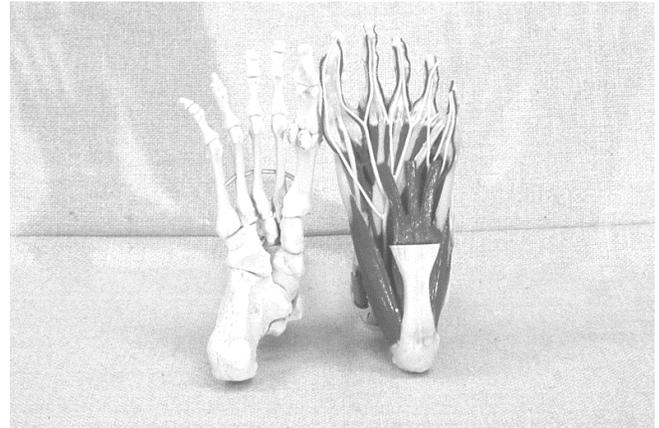
85 Style comes last in importance because we are fitting the shoe to the foot.



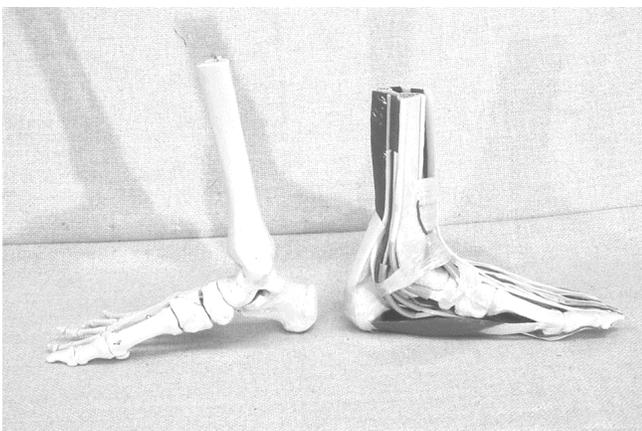
86 Please take some time to study and learn anatomy of the feet and whole body. The time you spend will not be wasted. You can save and use the knowledge for the rest of your life.



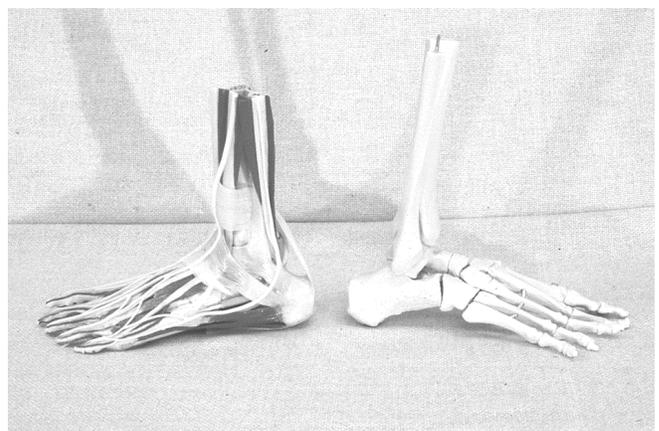
87 You don't need to study like a premed or medical student. You don't need to learn all the names and all the parts.



88 You should acquire a general appreciation for the simplicity and complexity of the human body.



89 You only need to be able to recognize the basic general structures. You need to be familiar with how the body generally works.



90 You need to look at pictures pertaining to structure, mechanics and function. And, most of all, you need to observe people and how they are using their bodies.

STUDY AND LEARN ANATOMY OF THE FEET AND THE WHOLE BODY

There are a few basic anatomy type books which will be very helpful to increasing your present knowledge:

- 1) The Anatomy Coloring Book by Kapit and Elson.
- 2) Atlas of Human Anatomy by Frank H. Netter
- 3) Trail Guide to the Body by Andrew Biel

You don't have to purchase every book. Your local library can get almost every book by an inter-library loan system.

As an artisan and craftsperson, a reasonable knowledge of bones and muscles is adequate (Trail Guide to the Body is my favorite book). Your education should be directed toward understanding balance, function and movement from a broad perspective of sports, dance, theater, occupational and physical therapy, and kinesiology etc. All types of physical activity are important. There is mediocre physical movement. And, there is natural or skilled (practiced) physical movement.

The "Old Timers" liked to refer to the practice and enjoyment of "Physical Culture". There is a wealth of past history to study if one is so inclined.

I would like to start by saying that Bonnie Prudden wrote about the importance of brining up children with proper exposure to physical movement and she said, something close to this; "When children are trained in physical movement activities between birth and six years of age, they will acquire patterns that will last a life time". I think her most important books were: How to Keep Your Child Fit from Birth to Six, Fitness from Six to Twelve, and Teenage Fitness.

I also recommend looking into these additional sources of information:

- 1) GRAYCOOKMOVEMENT.com Gray Cook is an independent leader in functional movement systems education. He has a lot to share. It is good and useful information you can use for life.
- 2) DRAGONDOOR.com Very good educational materials from some of the best performers in a diversity of athletic endeavors. Every contributor has mastered some particular aspect. They are all willing and able to share with you how to get the best results you can.
- 3) OPTP.com/Education A good source for educational information in occupational therapy and physical therapy. They offer a lot of the traditional literature.

Understanding physical movement is a major key to success with specialty footwear. As an artisan and/or craftsperson, you do not correct or teach improvement in physical movement. But, you must observe physical movement, and do what is necessary to accommodate the physical movement you see as it pertains to the footwear you are making.

My books are for you to make your own custom made molded footwear. If you want to make the best possible footwear for yourself, you have to understand yourself. If you understand your own physical movement, you can make better footwear than if you don't understand your own physical movement.



91 These are more pictures of specialty footwear. This is one of the MURRAY SPACE SHOE® KINETIC sandals worn by Danny Kaye.



92 This is the last pair of MURRAY SPACE SHOE® ADJUSTABLE BOOTS that I made for Danny Kaye . He never had the chance to come back to pick them up and visit again.



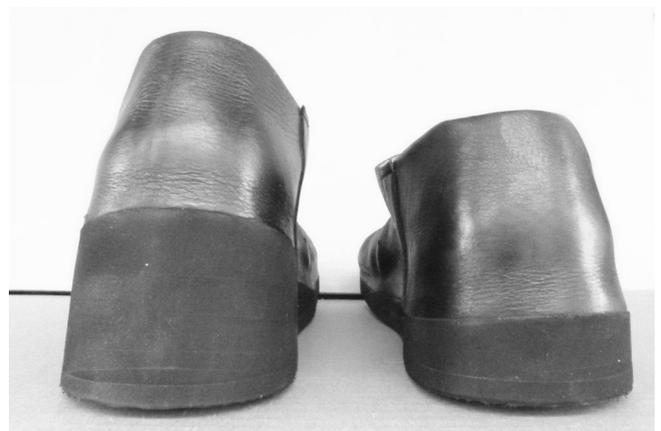
93 A pair of boots for maximum ankle stability. The left ankle has a wobble problem. Therefore, the additional Velcro® closure.



94 A Diana style with a very soft special order leather.



95 A non standard, but traditional design of basket weave with Velcro® straps.



96 An increased left heel wedge for additional lift, with flaring and tilt for stability.



97 Side view of the same pair.



98 Boots with three Velcro® closures and no tongue.



99 Top view of previously pictured boots.



100 A plain style in a special order kangaroo leather which was molded by latexing.



101 A pair of boots for a right foot with an amputation. The right boot was purposely made without a dummy front to reduce the risk of stumbling and falling.



102 The same boots from another angle of view.



103 A pair of Jet boots in a special order leather.



104 A pair of basic shoes which required special and additional insert materials and modifications.



105 A pair of oxford type shoes with laces up the front and padded tongues.



106 The same shoes from another angle of view.



107 A pair of boots for wide forefeet and bunion areas.



108 A pair of boots for sore feet.



109 A pair of boots for a person with poor structural alignment.



110 Front view.



111 A pair of Jet boots with a square top.



112 Back view.



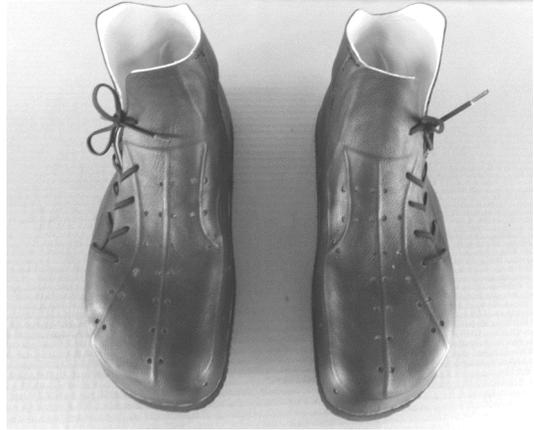
113 Side view.



114 A pair of shoes for unmatched feet. You can see the ankle problem and the need for special accomodation around that part of the foot.



115 A pair of hiking boots for differently shaped feet.



116 A pair of Side Lace boots with three cord design.



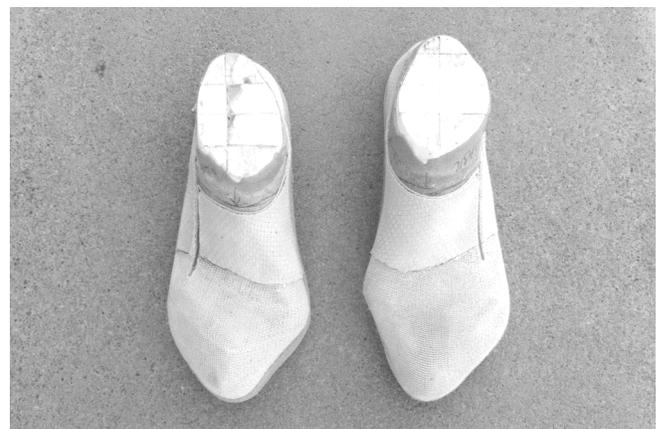
117 A pair of plain Jet boots in a special order leather.



118 A pair of Basic shoes in a special order leather.



119 A pair of plain sandals with front buckle and top Velcro® strap. The front strap required very special positioning because of the hammer toes.



120 A pair of plain shoes in the making with the front inner sock material removed for additional softness over the bunion and hammer toe areas.



121 A pair of slip on boots with front opening, tongue and one Velcro® strap per boot. Notice the flared heel lift on lateral side of left boot.



122 A pair of hiking boots with very wide lace opening and a special order leather.



123 A pair of Lielani sandals with Velcro® top straps. All black leather was requested inside and out.



124 Ditto.



125 A pair of hiking boots with two hooks on top. The shiny spots around bottom of leather and sole, tongue and side seams, is a bead of Freesole® sealing that is reflecting the light.



126 A Side Lace boot with a very low heel wedge.



127 A plain sandal of standard design.



128 A simple modification of three Velcro® straps makes this an example of specialty footwear.



129 A pair of plain shoes with a different ventilation design.



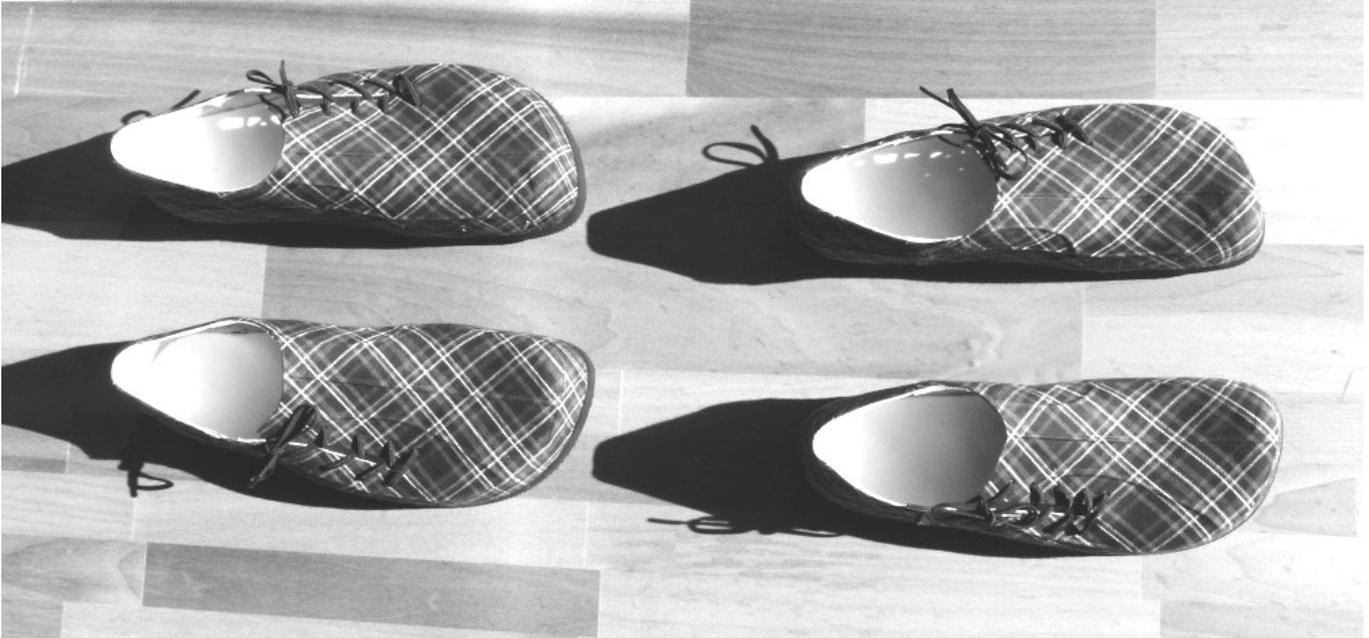
130 A plain oxford with a "T" opening.



131 A nice pair of old fashion slippers.



132 A special request for an elegant customer.



133 A pair of matched shoes in Basic design for the performing arts, walking the dogs, and clowning around. Look for these shoes at the next Academy Awards ceremonies.

There is a lot more diversity of shape and size in the feet of the human population than is apparent from the footwear offerings of big business. They make a lot of styles, but they don't fit very many feet very well with standardization of size and shape.

Keep learning about how to make your own molded footwear. You will soon be able to make better fitting footwear than you can buy from the store.

This chapter was devoted to examples of specialty shoes, boots and sandal footwear.

The next two chapters will be devoted to the fabrication techniques used in making specialty shoes, boots and sandal footwear.