Gary Gaddy, Knife Maker

By Kim Midgette and Michelle Myers

Mr. Gary Gaddy grinding knife blade

Introduction

By Michelle Myers

Teacher, husband, father, sportsman, expert knife maker. Mr. Gary Gaddy is a jack of many trades and a master of most, especially knife making, as we found out on a visit to his home and workshop on a December day in 1993.

I had the opportunity to speak with his wife, Jill, who is a teacher at the Montessori School of Washington, and with his daughter, Erin, who has recently turned sixteen. Erin has
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informed me that her dad needs to get busy selling knives because she is in the market for a car. Jill, his wife, tells me that Gary certainly spends all his spare time in the knife making shop he recently completed building for himself in their backyard. As I understood from her, he was at one time an avid sportsman, so much so, that they have a deer head mounted above their bed.

But recently this hobby has been placed on the back burner. Gary has become quite an enthusiastic and dedicated knife maker. His dedication is certainly revealed in the works he displayed to us journalism students from Life on the Pamlico as we visited him in his backyard shop. Gary explained the meticulous steps involved in making a knife and displayed great pride in his finished product.

Life: How did you get interested in making knives?

Mr. Gaddy: Started a long time ago, back in 1968. I roomed with a couple of fellows who were interested in hunting.

Life: Was this in college?

Mr. Gaddy: No, this was the first year I taught, in 1968. One of the young men that year ordered a Randall knife. Bo Randall, of course, was a knife maker in this country for a number of years and created a tremendous interest in handmade knives. He ordered a Randall knife that year. (I always had an interest in knives all my life, even as a little boy.) I saw the Randall knife and started researching handmade knives and wanted one. Also, after I got married, I decided I would try to make some knives, but I didn't have a place to work at that time. My wife and I had just gotten married and were renting a cottage down on Broad Creek, and I didn't have a place to work. I bought a few basic hand tools, started ordering some prefabricated blades, started putting handles on those, and made a few knives through using the blades that others had made. But that was just not satisfying to me.

Life: You can buy the blades that are already made?

Mr. Gaddy: Yes. There are companies and individuals who will sell you preground blades. The only thing you have to do is add a guard and handle. I quit making knives and got out of it and went back to graduate school for several years and, of course, started my family. About five years ago, I met a man in town by the name of Wayne Whitley who was also interested in knives and was beginning to make a knife or two along that time. I had some handle materials and things that I shared with him. About three years ago, Wayne kept asking me to come over to his shop, saying I needed to grind my own blades. And so about three years ago, I did that and made my first knife.

Life: When you say grind a blade, what do you start with?

Mr. Gaddy: You start with a piece of steel.

Life: Where do you get that?

Mr. Gaddy: Well, you can buy steel from various knife-making supply companies. One of the places I use is Sheffield Knife Makers’ Supplies. I buy it in six-foot
lengths. And then whatever design you decide to make, you spray lay-out blue on the steel, trace around your design and cut it out. Then decide where you want the grind to stop. And then you go to this grinding machine and start grinding.

Life: Historically, going way back, when people would make knives, would they do it like a blacksmith does it?

Mr. Gaddy: Even today, there are two basic ways of manufacturing knives, and these are by forging—what a blacksmith would do—and also by stock removal. And, of course, originally knives were primarily made by forging, by hammering out, by using a hammer and an anvil; but I don't know exactly when stock removal came into play. I know that in the 19th century, especially in England, there were people who were grinding blades.

Life: Stock removal means just grinding away metal to form a blade to the shape you want?

Mr. Gaddy: Right.

Life: Are there different kinds or grades of steel to use?

Mr. Gaddy: There are a number of steels that you can use to manufacture a knife. It depends on some of the characteristics that you would like for that particular knife to have. One of the popular steels today is called ATS-34. This steel is stain-resistant, what some people call "stainless steel." And it's also one that's very tough, and it's durable if it's heat-treated properly. Of course, like I said, there are a
number of steels. Four-forty-C is a stain resistant or a stainless steel that is used quite often today. There is another tool steel called D2, which is a good knife-making steel. A high carbon steel called O1 is what this blade I'm currently working on will be made from. It makes a good knife.

*Life*: Do you make knives for different purposes?

*Mr. Gaddy*: Well, I have different styles of knives that I use or make. I brought some of the ones I made here; they cover a variety of knives. I started making larger knives, the so called "Bowie knife."

*Life*: That's named after Jim Bowie?

*Mr. Gaddy*: Yes.
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Life: Is that true that he was at the fall of the Alamo?

Mr. Gaddy: Yes. I believe Jim Bowie was killed at the Alamo. This [showing] is a Bowie knife I made; this past summer I entered this into the North Carolina Wildlife and Sportsman show. And this knife took the best Bowie of the show.

Life: Well, that's great! What are these ridges on the knife?

Mr. Gaddy: This is decorative file work that I've done here. Now, these ridges here [on another knife] are the remains of an old file. This knife was made from a file.

Life: These ridges don't have any purposes?
Mr. Gaddy: No. Just for decoration.
Life: The Bowie knife is a hunting knife. Is that the primary use?

Mr. Gaddy: Yes. It was a hunting knife. It was also a knife that was used as a means of self-defense.

Life: Is that knife that you made about the size of the original one?

Mr. Gaddy: Yes. If you were to research the Bowie knife, you'll find out that there were a lot of styles of knives that have the name "Bowie knife" attached to them. They can be anything from a spear-point blade, which is a blade that tapers from both sides, to a blade that has a lot of curve here [pointing] coming up. Just any number of blade shapes and sizes will come under the heading of a Bowie knife.
Life: Why did you use an old file? Did you think it had good steel in it?

Mr. Gaddy: I did this after reading about a knife maker in Boone, North Carolina, by the name of Daniel Winkler. The article stated that a lot of the 19th century knife makers used files because it was a good source of steel. And they would actually leave the old file teeth to show that it was, indeed, a file.

Life: That would kind of be advertising?

Mr. Gaddy: Right. There are some foreign files that are good quality steel. If I can find old American files, I'm pretty confident that they're good steel. The only disadvantage is, like O1, it will rust.

Life: Is stainless steel that doesn't rust as a cutting edge superior or inferior, or is there not much difference?

Mr. Gaddy: I don't think there is a great deal of difference. The ATS-34, which is a stainless steel, is noted for its edge-holding quality and for being a very tough steel. And, of course, you have to go back and preface that by saying if it's heat-treated properly, because if it's not heat-treated properly, it's just simply not going to do the job.

Life: That's in the actual making of the steel?

Mr. Gaddy: No. After the blade is ground, it has to be hardened and annealed. For example, O1 is hardened by heating it to approximately 1450 degrees.

Life: You do that here?

Mr. Gaddy: Yes. We do high carbon steel here and D2, but ATS-34 I'm going to start sending to commercial heat treaters. Those blades [pointing] are all ATS-34, and they're ready to go to the heat-treater. This steel can be rather temperamental if you don't always get the desired qualities that you want. That steel will harden very, very hard in excess of Rockwell 60-61, which means it's going to be very difficult to sharpen. But 01, for example, is heat-treated by heating it to 1450 degrees and quenching it in oil. And then after you allow it to cool, after it's been hardened, of course, it's very brittle; and then you have to anneal the steel.

Life: What is that?

Mr. Gaddy: That involves another heating process, but you don't bring the temperature up. Usually you'd put it in an oven set at 400 degrees for 30 minutes, checking the steel to make sure that the 01 turns a nice straw color.

Life: The purpose of this is to make it hard so that it won't break?

Mr. Gaddy: Yes. It's to make it hard so it will hold an edge, but also you have to anneal it to keep it from being so brittle because you can break a blade fairly easily that's been hardened without annealing.

Life: What makes a quality knife as opposed to one that's not heated.
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Mr. Gaddy: Using good materials and good heat-treating as well as workmanship.

Life: If you just go into the store to buy some knives, you've got some that cost $1.50 and some of them cost $25.00, and they look about the same. The difference would be in this process, you think?

Mr. Gaddy: Probably materials, process, and the amount of workmanship, because, of course, a lot of commercial knives are stamped out by machine; in some cases they're dye-stamped blades. Again there is a variety. Yes, they're heat-treated.

Life: Would it be next to impossible to make a really quality knife that way?

Mr. Gaddy: There are a lot of good mass-produced knives on the market. It just depends on what you're willing to pay for.

Life: Could you show us how you start with the procedure and go through it?

Mr. Gaddy: I don't have any blank blades cut out right now, but this one right here is one I started Sunday. I started with a 60 grit belt, using this piece of steel. The first thing I did was to spray it with lay-out blue, and then I put some reference lines by taking this machinist square over here and coming along here and putting a couple of reference lines right here. I want to grind, well, right where it is right now. One of the things you want to do is make sure the grinds are the same on each side. And also when the finished product comes around, you want to be able to see that your grind comes out to about the same place at the end of the blade. For example, this knife is made out of AS-34. I checked all of these, and the guidelines should meet; there should be a signature in the knife. After I've marked a few reference points, there's another tool over here I use to scribe a center line. Before I ever ground this blade, what I did was inscribed these two lines right here on both sides [edges]. Now, you can see that the line comes on this side and on this side. That's my reference point.

Life: So you want to grind it down to the line on each edge?

Mr. Gaddy: Right, I want to grind to that, and as you can see, I ground very close to it back here, but I've left a little bit of extra metal on the tip because what I'll do is I'll come up here; I've already started this process with a file. Then I will thin or I'll put a false edge on the top of the knife, which will bring all of this to a point. As you can see, this is basically the same blade pattern as this, and, you see, your false edge takes away some of the metal and thins this somewhat and gives it what I consider a little bit more graceful shape. Also, if you were to have to use it, it would penetrate much easier. Hopefully, that doesn't ever happen! After I scribe this, what I do is start grinding; of course, I'm using gloves, have on a mask and my apron. First thing I do is I'll grind a forty-five [angle] to this line [reference line on edge]. I don't like to do that. After a certain point, I'm willing to sacrifice a little bit of grit on one of these belts because I can see it so much easier when I can see that line right there and know what I'm working to. So after I put the forty-five degree in there, then, of course, I begin the actual grind. What you're doing at that point in time is just simply
beginning to remove metal. And, of course, this is a two- horsepower Bader grind, and you can see it takes the metal off.

*Life*: What is the belt made of?

*Mr. Gaddy*: It's a woven material coated with some type of abrasive material.

*Life*: A kind of super sandpaper?

*Mr. Gaddy*: Yes. These are manufactured in Germany by Klingspoor, I believe, is the name of the company.

*Life*: Would you ever sharpen a knife on the grinder?

*Mr. Gaddy*: No, definitely not. This is too coarse. When I start grinding, of course, I put the blade up against here [belt], and I'm beginning to remove metal. I'm not concerned about my grind line and it's not very pretty at first. I just push the metal against the grinding wheel and gradually work it along. Coming along here like this, I will grind this side, checking the field and making sure I'm not getting any depressions or anything. I don't use any jigs; I grind by hand, by eye. Once I get this side worked down, then, of course, I turn over and go to the other side.

*Life*: You do one side completely or pretty close to it?

*Mr. Gaddy*: Yes, before I ever turn it around because it saves time. If you grind a little bit here and grind a little bit there, then, of course, you've got to turn from one side to the other; and I found out that it's just as easy and I do just as well by grinding pretty much on one side then going to the other. Now, this is rough ground, and I will continue on this a little bit. I'll be glad to grind some for you, but honestly and truly, you're going to get dirty if I grind. It's up to you.

*Life*: Okay, we'll pass on that!

*Mr. Gaddy*: You're going to get it in your hair, and it's going to be on your clothes. My wife, she actually complains about the way I smell when I've been grinding steel. She says I smell like a knife! But, anyway, after I've taken this grind line up a little bit more, I will go next to a 120 grit belt. This is a 60 grit. This is a 120 grit, which is, of course, higher than the 60. Then I go to a 220, and after I've gone to the 220, what I plan to do is some decorative file work on the top of this, like I did the knife over there. I'll go lay out the pattern that I want to do as far as decorating this blade. I'll do my file work.

*Life*: Is that just by hand?

*Mr. Gaddy*: Yes. You draw a pattern in doing file work. Just put the blade in the vise here. Whenever you have a blade in the vise, you've got to be extremely careful not to impale yourself; that's an accident problem. I just take a rule and my little square here and I'll just lay out, say, for instance, a quarter inch line, and I'll maybe get the compound square and put some forty-five degree marks, depending on the pattern I want to do.

*Life*: Do you just make up these patterns, or are they historical?
Mr. Gaddy: This pattern right here is one that I made up this past summer. A lot of people see a lot of different things. I've taken this knife and asked what you see. What do you see, for example?

Life: Trees, cactus, birds.

Mr. Gaddy: I've heard it called crow's feet, half moon, half star, star burst, any number of things.

Life: You just made that up?

Mr. Gaddy: Yes.

Life: Historically, did knife makers have kind of a signature that they would put on, like this was made by so and so?

Mr. Gaddy: Right. They had stamps, various dyes they would stamp blades with. I have a friend of mine, a gentleman by the name of Wayne Bech, who makes pocket knives. His signature is his file work, and he does some very intricate and beautiful file work.

Life: Is he from around here?

Mr. Gaddy: No. He's from the Piedmont. One of the things that he puts on every knife (he makes folding knives) is an arrow. Every one of his knives has an arrow on it, which, I think, is real neat. Now, when I made my first knife, Wayne said, "How are you going to mark it?"

I said, "Well, I don't have anything to mark it with." So he had a stamp, that moon stamp, so I started using that; and, of course, after a while it got dull and I decided not to use that anymore. I didn't know if people would associate it with Proctor and Gamble and witches and what have you. So I decided not to use it anymore, but I found out that people really like it. Now, we use an electro-chemical process of etching, and my logo is now my name, the moon, and "Handmade." I haven't even used these. I've had them for several weeks, but I haven't gotten around to etching any blades.

Life: You don't ever do the pocket knives?

Mr. Gaddy: No, not yet.

Life: Are they more complicated?

Mr. Gaddy: They are. It's something that I'm hoping to do in the future. I plan to make a pocket knife or some pocket knives before it's all over.

Life: [Showing the knife] I have the Swiss Army knife that's got everything.

Mr. Gaddy: [Showing his own] One of the handiest tools I've ever found.

Life: What about knife handles?

Mr. Gaddy: Handles are made from a variety of materials. One of the most popular handle materials is antler, and this, one of the most popular antlers, is one called "sambar stag." This is a deer in India, and they import sambar stag. The various knife-making suppliers carry this. It comes in all
different shapes. It comes in rounds; it comes in tapered carves.

*Life*: So these are actually antlers from a deer? A stag in India?

*Mr. Gaddy*: They take it and cut it up into scales of various sizes, depending on the knife you’re going to use.

*Life*: Is that the only type of antler that you use?

*Mr. Gaddy*: No, this here has elk, and also this is white-tailed deer. This is an outstanding piece of white-tailed deer antler. It has a lot of texture and good color and also is fairly dense. The difference in your white-tail deer, it’s not quite as dense as the sambar stag. Well, if you’re making a knife out of white-tailed deer antler, you have to be careful to seal it and try to remove as much of this porous material as you possibly can. You don’t want your handle to work against the blade at some point in time and start getting loose. Now [there are] various types of wood. This is a wood called “desert iron wood” that people use. This is “cocobolo.” A lot of tropical woods are used. This knife over here has a wood called “bocote,” which makes an attractive knife handle.

*Life*: I guess you could just use any wood if you wanted to?

*Mr. Gaddy*: Well, if you use a porous wood, it has to be sealed because it’s going to absorb liquids and oils and things like that. Of course, they will add to the deterioration of the handle. This is a man-made material called “resin.” And like I said, it’s a nice handle material. There are any number of woods that are available. This is a wood called “zebra wood”; various types of maple--curly maple, birdseye maple--make a very attractive knife handle.

*Life*: What do you prefer?

*Mr. Gaddy*: I like sambar stag. To me it’s a very beautiful wood, and also I like walnut. But walnut, in my opinion, is not the best handle material. This is a knife that I handled in walnut, and I used a sealer to seal this wood.

*Life*: You make the handle and shape it?

*Mr. Gaddy*: It’s very difficult in my opinion to make an original knife blade and knife handle because if you were to look at all the knives that have ever been made, someone, somewhere along the line, has made something like that before unless you get into the real exotic art knives. Now, some of those things, if you’ve ever seen pictures of them, they are extremely unique in their design and form and function, but if I had to choose one handle material, as far as my personal preference and beauty, I think sambar stag is hard to beat.

*Life*: I noticed this one over here; it’s lighter. Could you shape it?

*Mr. Gaddy*: This is a piece of elk, and it was tapered naturally. This is pretty close to being natural because the tips of this elk’s tines, as you can see, they get a little bit lighter as they taper down. As a matter of fact, that probably was the end of that.
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Life: What do you use to shape these things, some machine?

Mr. Gaddy: Yes, grinder or files. I do a lot of handwork whereas some knife makers rely on machinery more. I do a lot of hand sanding, filing, and shaping and what have you, although with this machine right here, I can do what is called "flat grinding," where you grind and get a flat surface instead of a hollow-ground surface. And then you take it off behind these that would fit right here, and you can do what is called "slack grinding," which is good for shaping handle material.

Life: What do you call this indention?

Mr. Gaddy: "Hollow grinding."

Life: Is that supposed to be superior to flat grinding?

Mr. Gaddy: I don't think it's necessarily superior.
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Life: More attractive?

Mr. Gaddy: Well, it's a matter of personal preference.

Life: What causes the hollow?

Mr. Gaddy: Yes, that's the contour of the wheel right here. For example, on this knife here, some makers making this knife would have ground, say, roughly 1/2 to 5/8 of an inch of the blade all the way down and would have left it like that, which gives you a blade that has a relatively wide taper on it. Bringing the grind line up as high as I've done here reduces the weight of the knife, gives you a smaller taper. You don't have quite the wide blade material in here. Makes it a better cutting blade.

Life: This is the one that won the prize?

Mr. Gaddy: Yes.

Life: The judges, what would they be looking for?

Mr. Gaddy: The two people who judged this particular knife, they did not tell me what the criteria were. One of them was the editor of Blade magazine, and the other one was a retired marine officer, I believe. But I assume that they were looking for workmanship, fit, finish. One of the things I tried to do was to make sure this piece of African black wood and this piece of sambar stag were joined together with no gaps whatsoever. I think they also look for design, embellishment, such as file work; and I hope that they noticed the fact that I tried to make the stag appear to run into the African black wood by carving this out. But I
would say form, fit, finish, workmanship would be the criteria.

Life: How do you get this high shine on the blade?

Mr. Gaddy: That particular finish is a satin finish. That's a hand-finished knife, and what I did was I made this little apparatus here and I put it in the vise like so. This is carpet tape which is sticky on both sides, and then I cover it with various abrasives and then I took this knife and finished it by hand. This finish is produced by going to 600 grit on the abrasive, which is a relatively fine grit.

Life: Did you invent this little thing for shining the blades?

Mr. Gaddy: Well, I guess you could say so. It's a little different technique than other knife makers use. The ones I talk with, generally speaking, they will put the blade in the vise and will rub the blade with something that has a curvature on it if they're working a hollow grind. Of course, if they're working a flat grind, they use something that's flat.

Life: Are your knives available for the public?

Mr. Gaddy: Yes, I do sell some.

Life: Is this by word of mouth, or do you advertise?

Mr. Gaddy: Well, basically, right now, word of mouth. I'm a member of the North Carolina Knife Makers Guild, and I attended my first show in New Bern this past fall [1993], September. Like I said, I wasn't very successful at the show monetarily speaking because I didn't sell any knives, but I was fortunate enough to pick up the award.

Life: How long does it take you to make a knife?

Mr. Gaddy: It depends on the knife. I work very, very slowly. There's a friend of mine in Winston-Salem, a man by the name of Tommy McNair. Tommy claims that he can rough-grind a blade in six minutes. I can't do that. I tried Tommy's technique the other day, and I can rough-grind a blade fairly quickly. But my concern is making the best knife that I possibly can.

Life: You have not sold very many of these?

Mr. Gaddy: I've sold a few.

Life: Do you make them to order?

Mr. Gaddy: I prefer not to. I'm a spare-time maker. I'm not even a part-time maker. As a matter of fact, these three right here are for a customer, and this one's for someone and this one's not.

Life: What kind of price range do you have.

Mr. Gaddy: For a smaller knife like this, they start around $85.00. Most knife makers would charge $25.00 extra for sambar stag, $25.00 for some of the exotic woods. A lot of folks don't realize when I purchase scales like this, that's $15.00.

Life: How long does it take you to make one?
Mr. Gaddy: About twenty plus hours, but it depends. I learned a very valuable lesson in trying to prepare for a knife show that quality declines rapidly when you're trying to meet a deadline. I'm not interested in meeting deadlines and not interested in selling a large amount of knives.

Life: People who buy these, do they use them?

Mr. Gaddy: Yes, people do. As a matter of fact, my neighbor has bought two of my knives for her nephew in Florida. He lives in Orlando, the home of Randall knives. He has written to me and told me he has used my knives for skinning game.

Life: Randall is the number one knife?

Mr. Gaddy: No, not anymore. There are a number of knife makers out there today. Some of them do outstanding works of art. You really need to take the time to look at the literature to see what's out there.

Life: Do you make any pocket knives or plan to?

Mr. Gaddy: Probably in the next two years. That is one of the reasons why Wayne and I bought some particular machine, anticipating that we're going to be making some pocket knives.

Life: What do you recommend to sharpen knives?

Mr. Gaddy: Start out with a Washita stone, go to the soft Arkansas, then the crock sticks or hard Arkansas. You need a stone two inches longer than the blade. Now there are a lot of products on the market. There's a stone mount. I can't remember the commercial name, but it's actually diamond impregnated material.

Life: You go long ways?

Mr. Gaddy: What I do if I'm sharpening a knife is simply, go down like that, tilt it [blade elevation] at a fifteen degree angle, give her about a forty-five this way [across the stone] and maintain the same all the way down. And when you get closer to the end, bring it down so you get the tip and do the same. These are called “crock sticks,” not for sharpening, but putting on the finishing touch.

Life: You elevate the blade about twenty degrees?

Mr. Gaddy: Between fifteen and twenty degrees this way, turn it about forty-five degrees this way. And if you're working with a long blade, you need a long stone. And when you finish with it, I want it the same on each side. I'm just peculiar, I guess.

Life: That would probably be one of the criteria of judging a knife, wouldn't it, looking at that point and making sure it's dead center?

Mr. Gaddy: That's one of the things. If you can see someone looking at a knife and you see them holding it head on, that's what they're doing. They're checking to see if that point is in the center.
I had no idea there was so much in making a knife until I spoke with Mr. Gaddy. The one thing to learn from this interview is that knife making is an art form. I enjoyed learning all about the different types of steel that are used and the materials employed for the handles. I had never realized that deer antlers could be used for handles. I had always assumed that they were made from wood. The thing that surprised me the most was that so much work goes into making a top-quality knife: from the materials used to the detailed handwork that can be done on the knife blade. Mr. Gaddy was very helpful in teaching me a lot about the quality of a knife that people need to look for, such as the point being in the center. I got the impression that Mr. Gaddy is very proud of the work he does. He puts great time and effort into the knives he makes. Mr. Gaddy shared his love for making handmade knives when he said, "But my concern is making the best knife that I possibly can," and "I'm not interested in meeting deadlines and not interested in selling a large number of knives." Statements like these tell me that Mr. Gaddy is truly into this art form, if you will, for the enjoyment of starting out with a piece of steel and an antler and making a beautiful knife out of them. From the information I got from listening to Mr. Gaddy, I will, I hope, be able to buy and appreciate better quality knives from now on.
Michelle Myers (left) and Kim Midgette with Mr. Gary Gaddy