

October 1, 2004

To Whom It May Concern:

This letter will cover the attached document, shaping tools, equipment for glass shops to eliminate fumes, and the rather complex details behind the work being done in all of our behalf by Matt Biolas of Lost Surfboards.

Attached is a document I wrote titled AN ANALYSIS OF THE FUTURE OF THE SURFBOARD INDUSTRY.

I have a nut case friend who states "its high tide" when good things are happening in his life. He described this year in surfboard sales as "high tide". In the past, I have written about bad times. Why would I do an analysis when it is "high tide"? The simple answer is that normally the easiest time to make improvements is when it is "high tide".

To give you a preview, in my analysis I talk a lot about a mythical Asian surfboard builder called Ying Yong Foo and his American and Australian colleagues. I also speak of some changes and errors we are making in the domestic surfboard industry as well as our strengths and weaknesses. I included a lot of historical perspective and offer suggestions for improvement. I probably use an unconventional approach compared to the majority of the surfboard industry. The Table of Contents on the first page gives a good outline of the document.

Less than a year ago Clark Foam built what we thought would be a lifetime supply of vacuum systems and current sensor switches (vacuum switches). We ran out some time ago and are currently completing a second batch. These products, along with our blade sharpener, have been wildly successful! By now there are enough shapers using these products to use as references so I need not provide more details.

There are two issues regarding styrene and the associated resin fumes emitted by glass shops. One is inside of the shop. That issue will not be covered in this letter. We have considerable expertise about in-shop fumes at Clark Foam. We will be glad to provide information upon request.

The other issue is fumes sent outside the shop and especially neighbors making formal complaints to the authorities about these fumes. This has happened quite

frequently and, because of fumes, the authorities have closed glass shops. With the current shortage of glassing encouraging the expansion of overseas production, we cannot afford to lose any more production. Therefore, it is very important that the information below be well circulated throughout our industry.

First, it is important that all fumes from a glass shop be collected and exhausted through a stack. Open doors or windows emitting fumes can result in high concentrations or a "smell". It does not take much of an exhaust system to force all fumes in a building through a stack.

The next part is the little known trick. When fumes come out of a stack or pipe at a high velocity there is a tremendous mixing or dilution force with the ambient air. This is extremely powerful and the rate of fume dispersion will totally eliminate the "smell".

What you want to do is use as small of diameter, round pipe as possible to increase the velocity of the air being removed. There should be a reasonably long piece of the small, round pipe. Next make the pipe or stack as high as possible. This will assist in the dispersion. Last, of course, place it well.

It will probably pay to at least consult with some form of expert in air moving equipment. At the really high-tech end there are computer modeling programs and expert engineers that will totally dial in your system. (At Clark Foam we went the cheap way - as usual for the surfboard industry. Later, I had to pay big time to prove to some government idiots that my system worked.)

The common error will be a failure to size all equipment properly and to have the velocity of the air coming out of the pipe too slow.

Once the system is properly configured the fume smell will disappear.

Historically the United States surfboard manufacturing industry has always been considered the finest in the world. Almost every significant innovation in surfing, including the sport itself, has been attributed to the United States. Some specific areas, such as California and Hawaii, get special credit for innovation and excellent surfboards. Many people have worked long and hard to build this reputation.

Individuals and brands can also build a reputation. For example an Olympic Gold Medal winner, Coca Cola, or even a female streetwalker. They have earned their

reputations and they own their reputations. That is very, very clear. I believe everyone is in agreement about this point.

For the next part of my analysis, I believe it is appropriate to use the streetwalker as an example. Here is how this works: If she claims she is from Paris, she will get a lot more customers than if she claims she is from Calcutta. It is just that simple!

The same thing goes for a surfboard. If you claim it was made in the United States or allude to any part of the United States you will get more customers.

You own your name or brand but you do not own the right to claim association with anything that you are not a part of or do not own. For example, you cannot claim your cola is Coca Cola, steel made in Michigan is Swedish Steel, and surfboards made in Asia are made in the United States. Furthermore, if you allude to any part of the United States in your surfboard claim you must clearly reference where the surfboard was made. I believe that makes sense and everyone will agree with this concept. For example Swedish steel producers all worked very, very hard collectively to build a reputation for Swedish steel. American surfboard builders collectively have all worked very hard to build a reputation for American surfboards.

The United States law is as follows: Surfboards made outside of the United States must be clearly marked with their country of origin. If there is any reference to any part of the United States on the product, then the country of origin marking has to be done using the same size and the same method as the reference.

The surfboards made in low cost countries have consistently violated the American laws. They are cheaters. They have either failed to mark the country of origin or the country of origin labels have been ripped off after they enter the United States. This goes from the surfboards in Costco to the highly advertised Surftech brand.

Matt Biolas of Lost Surfboards researched all of the laws with an attorney. He then took a group of Customs Agents to a trade show and retail outlets and showed them the flagrant violations of our laws. He and the attorney did some flying and more visiting with different Customs facilities.

The Customs Agents were cooperative but did not know for sure which ocean containers had surfboards. The attorney got this fixed by applying for a special U. S. Customs Code for surfboards. This Code was recently given (9506.11.40.10). Now

Customs know the containers that have surfboards inside and their inspection process will be easier.

We remain optimistic that Customs will pursue their job. When they find a violation there is a very significant fine and the container is delayed, creating a hassle for the importer and their customer.

Matt has also worked on two other issues.

First, using their findings, the attorney made a formal request that imported surfboards have permanent country of origin markings. The request was based on the fact that the practice of ripping off country of origin labels, if they existed, prior to displaying the surfboards in show-rooms was widespread. This request was formally denied by Customs. If, however, this practice continues this issue can be reopened and we could probably get Congressional help. This would take a very concentrated effort on the part of our industry. Fortunately, we have found a leader in Matt Biolas, but as yet we do not have a formal organization or paid lobbyist.

The second issue is far more complex and frankly over my head. It is the charge of “dumping” or selling at below domestic cost, or severely damaging the domestic surfboard industry. Below is a crude explanation of how this works:

The molded type surfboards currently made in Slovakia (rumored to be moving to China) and Thailand are being built far, far below their cost in the United States. This technology was improved in these countries, but was initially developed in the United States and Europe. The polyester/Australian polyurethane surfboards made in Asia are being sold retail at close to the cost of production in the United States.

Any of the above reasons can and have resulted in tariffs being imposed. The problem we are facing is that the line of American manufacturers applying for such protection extends way over the horizon. Furthermore, the World Trade Organization is overruling the United States almost every time they impose a tariff.

Politicians do not get elected based on complex issues nor do they like to have to address complex issues. For simplicity, our leaders are simply advocating total “free trade”. Most economists and political thinkers are siding with this view along with the added view that “competition” is a really good idea and stimulates innovation and increased productivity. The general public loves the low priced imports. It is doubtful these views will change in the near future. Therefore, I hold little hope for

relief from our government in this area. If our government does act, it will probably be more in the form of a devaluation of the dollar.

Matt Biolas deserves our gratitude and our support. He has initiated this project and done a lot of work for all of us. He has also gotten some heat from the importers, shapers who endorse the imported surfboards, and retail surf shop owners who push the imported surfboards. They unfairly blame him for disrupting their supply and costing them income. They ignore the fact that they broke the law.

I would also like to say that Matt Biolas has my respect. What he has done is a real tough job.

Thank you for your business,

Gordon Clark

AN ANALYSIS OF THE FUTURE OF THE SURFBOARD INDUSTRY

By: Gordon Clark

October 1, 2004

TABLE OF CONTENTS

INTRODUCTION	3
THE RAPID DIFFUSION OF TECHNOLOGY	4
MANUFACTURING IN LOW COST COUNTRIES	6
PROMOTION	9
IMPLICATIONS OF THE SHAPING MACHINE	10
NEW MATERIAL AND FABRICATION TECHNOLOGY	13
DURABILITY ISSUES AND CERTIFICATION OF QUALITY	14
SUPPLY AND DEMAND CONSIDERATIONS	16
THE SUPPLY AND DEMAND FOR CUSTOM BOARDS	19
THE SUPPLY AND DEMAND FOR CUSTOM GRAPHICS	21
EFFICIENCY IMPROVEMENTS TO COMPETE WITH IMPORTS	21
METHODS OF SALES AND DISTRIBUTION	24
CONCLUSIONS	27

INTRODUCTION

One aspect of owning Clark Foam is the fact that every year I must continue investing dollars in the six-digit range. The majority of this investment has absolutely no resale value - it only has value for making Clark Foam blanks. Consequently, I spend quite a bit of time thinking about the future and the value of my investment. This year I thought I would share my thoughts with customers.

You will note that I take a lot of things into consideration.

Years ago my investment decisions were simple. I was sure the demand for surfboards would continue, I have always been on top of the various technologies for making surfboards, I knew my competition, and I have confidence in my equipment, people, and process.

In the past few years my old investment decision making strategy has been permanently destroyed by what is called the diffusion (or spreading) of technology and the moving of manufacturing to countries with very low costs. This change has been very rapid and, at this point, it appears much of this change is permanent.

I have come to believe that the future of Clark Foam and the future of the majority of customers of Clark Foam is hanging on one very simple factor - what I call the sophisticated buyer.

Read my definition of the "sophisticated buyer" below very carefully for I will refer to it a lot in this document.

I break the "sophisticated buyer" into three categories:

1. The surfer who wants a custom board built to their specifications. This is, in my opinion, by far the highest level of "sophistication".
2. The surfer who can pick out a surfboard with little or no help from a rack containing many surfboards that will work well for he or she in the water. To qualify as "sophisticated" the surfer must make an excellent choice and the board must work well maintaining or improving the surfer's performance level.
3. The surfer who buys a surfboard based on brand or name preference basing the decision on some level of past performance experience. Simply buying on name or brand alone does not qualify the buyer as "sophisticated". To be a "sophisticated buyer" the surfer must have a sound technical reason for the choice.

The overwhelming majority of really good surfers, and there are an awful lot of them, are what I call "sophisticated buyers". The very best surfers normally use

custom built boards fitting their known or desired performance specifications.

There is also a complex and often very effective series of promotional techniques used to sell surfboards. I am not an expert on these techniques. Furthermore, I cannot discuss these techniques in detail for ethical reasons as the majority of information I have has been related to us by customers or can be derived from our purchase pattern statistics.

In defining what I call the “sophisticated buyer”, I would clearly call any surfer or beginner surfer who purchased a surfboard based on promotional techniques the opposite of a “sophisticated buyer”.

(In this document, I am staying clear of the fact that a “sophisticated buyer” is normally a good surfer and influences his peers. I am also staying clear of the fact that once an individual gets hooked on surfing they normally develop an intense interest in surfboards. This is important but I have chosen to stay clear of these issues for they frequently fall under the category of promotional techniques.)

For the balance of this document I will be making the point that we need to do an excellent job supplying the “sophisticated buyer” and at the same time we need to develop more “sophisticated buyers”. I believe the point will be made that in the absence of a large body of satisfied “sophisticated buyers” we should start looking for other lines of work.

While some parts of this document will sound like doom and gloom, I strongly believe both the servicing of and the development of “sophisticated buyers” is achievable within the framework of our existing surfboard industry. We can satisfy the demands of the “sophisticated buyers”. To do this changes and focus will be required.

THE RAPID DIFFUSION OF TECHNOLOGY

Below are comments on the rapid diffusion of technology in the four general areas of surfboard construction:

1. Raw material suppliers. Today the same resins, fiberglass, pigments, etc. used, and for the most part, originally developed in California, are readily available everywhere in the world. Freight is both cheap and fast because there are lots of empty container ships leaving the United States. At this time many of these products are being reverse engineered in other countries so even the traditional United States surfboard raw material suppliers are losing market share. If this trend continues, the raw materials used to make good surfboards will all be manufactured in several countries. There are strong indications that these materials will be cheaper when they are manufactured outside of the United States.

2. Cores. There are four technologies. Polyurethane molded blanks are by far the most widely used and require the most specialized equipment and technology. Some Australians are selling the fairly standardized Australian polyurethane blank technology and will set up molding anywhere. At this point, some of the people they set up in the past appear to be improving on the Australian technology. The Asian blank making facilities that are being set up by the Australians represent a potential threat for a graduate engineer in these countries makes less per year than a part time sander in the United States. This means the Australian blank making technology will probably improve rapidly in Asia and elsewhere. The slab foams of polystyrene and PVC are all available at "lumber yards" around the world. The molded polystyrene bead foam core that has recently re-surfaced requires a significant capitol investment but the technology is available worldwide. There are several "hollow" technologies based on putting the majority of the surfboard strength in a hi-tech skin. The molded honeycomb "Wave" surfboard of the 1960's was the modern prototype of this technology. Recent improvements include a foam sandwich rather than a honeycomb sandwich and prepreg carbon fiber skins. Versions of these technologies are widely used in aerospace and military applications and fabrication technology is well known worldwide. The newer materials are finding their way into consumer products as more products enter the market and raw material prices decrease. The majority of these applications are molded or will eventually be molded. Adapting these technologies to surfboards requires an investment in both tooling and development.
3. Skin. This technology is fairly simple to copy so is probably not worth mention but for the sad fact that a combination of piece work, sub contracting glassing, over shaping, and, in California, environmental restrictions have resulted in an industry plagued with weak materials and poor fabrication practices. (I would also note that the same problems causing weak boards are also causing glassing production shortfalls during periods of high demand.) Overseas firms are now challenging our traditional industry. Some of them have engineering staffs. None of them has the emotional and "we have always done it this way" baggage we carry in our industry. They own their own glass shops so have control. Using trained engineers, it will be easy for them to pick out the strongest technology. In addition, a big part of the skin technology is the management of the labor applying the skin. While we have some highly skilled people in this field, we have very little management skills. Furthermore, some of our most skilled people use poor practices and materials because they are slaves to the piecework syndrome. If you think our overseas competition is unaware of our industry's poor practices read their strength claims in the surfing magazines. In addition, it is interesting to note that probably the strongest surfboard resin made in California is rarely sold in California but is exported!
4. Design. Due to the shaper or design technology and the fact that design evolves based on feedback from good surfers in specific types of waves, the

design of surfboards must stay near the best surfers and the type of surf the board is built for.

This will probably never change. Many shapers have told me that the surfboards in Costco look like good designs. Some contemporary shapers have complained to me that an overseas firm has copied their latest shapes. As shapers tell me of their new, hot shaping machine (or shaping service) they act as though they are the state of the art in technology and masters of the surfing world. Everyone is in a total state of denial. The truth is that the better name for a "shaping machine" is a "copying machine". Computer controlled shaping machine technology is being transferred overseas at lightning speed. In fact some of this technology is already imported and it can all be reverse engineered. This whole mess is so bad you do not even want to know any more of the details! We are at the point where the board leaves your control then is independently measured, and sent over the Internet to Ying Yong Foo all within minutes. In weeks there will be an ocean container of very low cost duplicates at your door.

Here is my summation: I believe the rapid expansion of the Internet has been a key factor in the rapid spreading of technology. The major technical factor has been the development of the shaping machine (and molded boards) allowing the imported boards to be replicas of the state of the art designs. I also think we have underestimated the seriousness of some of the overseas competition and their approach to building surfboards. They do not surf. They have access to a large pool of trained engineers. We should assume they will use the best practices for making high quality, strong, and light surfboards. Their approach to production and distribution will not follow our traditions but will be based more on conventional business school theory. What specialized skills they need they can buy or copy from the very competitive Australian and the United States surfboard industries. The full "spy system" is now in place and new development is being transferred overseas very rapidly.

MANUFACTURING IN LOW COST COUNTRIES

There has always been a huge worldwide pool of low cost labor and countries with low costs. In the past there were problems with gaining access to these resources due to restrictive government controls, tariffs, and a lack of infrastructure making simple things like transportation, raw materials, and utilities almost impossible. This is all rapidly changing as governments are taking steps to bring jobs and wealth to their countries. The access to low cost countries is increasing at a breathtaking rate. Tariffs on imported surfboards are virtually disappearing as our government promotes free trade.

The advantages of manufacturing surfboards in low cost countries are:

1. By our standards, wages are almost free.
2. Most infrastructure costs are very low due to the low labor costs. For

example, construction, transportation, and government services are very inexpensive compared to the United States. Very modern, large facilities are cheap.

3. The oppressive and costly environmental, worker safety, labor, and other expensive government control laws found in advanced countries are absent in most of the low cost countries. Believe it or not, this may end up being the most significant advantage of manufacturing surfboards overseas. In this area, California is a disaster.
4. In some countries it appears financing is readily available allowing rapid expansion. Some believe this will get better as it may become more profitable to set up an inexpensive, low cost factory in these countries rather than investing in the more expensive countries. The trend worldwide is to allow more foreign investment.
5. Containerized ocean freight has become very efficient and there is excellent service worldwide. Few realize that in California moving a blank from the blank maker to a shaping service to a shaper and to a contract glass shop may be more expensive than transporting a finished surfboard half way around the world door to door by container.
6. Due to improved education in low cost countries the availability of inexpensive engineers and other trained experts is increasing at an alarming rate. These services have rarely been available for our surfboard industry. Our development is more or less a backyard affair. We spend little on real scientific research and development due to the high costs of such services. We also use few of the methods taught in business schools. Inexpensive engineering and other resources offer the potential to take surfboard manufacturing to levels that would be prohibitive in cost in the United States.
7. The cost of our current technology, and especially surfboard design technology, is very cheap. While the original development of the technology was very expensive and very time consuming it costs very little to copy using "spies" and individuals who will sell everything they know at low prices. The selling of technology can, in part, be attributed to the fact that in the United States and Australia the domestic surfboard industries are very competitive.
8. Labor intensive manufacturing techniques like those used by the Cobra factory in Thailand are possible due to low labor costs. This opens new opportunities.
9. With low costs and business school trained management it is possible to have larger organizations that manufacture everything from the blank to the finished surfboard under one roof. This will be done using a far different

management structure than is found in the United States surfboard industry. With an unlimited supply of inexpensive, unskilled or semi-skilled labor there will be an entirely different method of training. For example, we have heard of three people putting the fiberglass on a single surfboard. Using different employee training methods and team based manufacturing methods there will be the ability to rapidly expand or contract production while maintaining high quality control.

10. If production costs are low enough and low profit margins are acceptable, low cost country producers will be able to literally buy the market for surfboards using quality, fast distribution systems, promotion, credit, and price. Looking at other manufacturing industries within the United States you will note they have disappeared 100%. That could happen to surfboard manufacturing!

The disadvantages and risks of manufacturing surfboards in low cost countries are:

1. The value of the dollar could fall literally wiping out the savings of manufacturing overseas. At Clark Foam we have been watching this for decades, as blank prices are very sensitive to the value of the dollar. In the last few years the dollar has fallen a little. Many economists predict the dollar will fall quite a bit further as the United States continues to increase importing more than we export. If the dollar does fall in value, the imported surfboards will be more expensive and that will be the end of the import story.
2. With the present variety of surfboards now used within the United States, it will be both difficult and expensive to maintain a steady supply from overseas. If there is an excess production capacity within the United States, this will become a severe problem for importers and will drive up their costs. Every time a domestic surfboard manufacturer has tried to work with a large inventory of finished boards in stock they have been burned.
3. The transportation system entering the United States is overloaded. This includes the West Coast ports. This is due to the massive increases in the amount of imported products being brought in from Asia. Our infrastructure was not designed to import all manufactured goods and food from outside of the United States. In the future this situation could wipe out the advantages of fast ocean container freight.
4. It will be difficult (but not impossible) to replicate the custom service and design our industry currently can deliver. This ties into what I earlier defined as the "sophisticated buyer".
5. There is a large inventory of used surfboards within the United States. This represents a low cost surfboard and will be a factor in the short term.
6. Ownership, legal rights, and business ethics in many foreign countries is an

ever moving target and subject to instability. Many countries deeply resent foreigners making anything but a small profit on their products. The bottom line is that they may do the work today but tomorrow they may want to sell directly. They may not honor agreements or property ownership. If they own the manufacturing then they have full control.

7. At the present time many countries appear to be very reliable suppliers. In theory, this should continue to get better. In practice, however, it is quite possible there could be a disruption of supply. This would create financial problems for those who become dependent on overseas manufacturing.
8. In many overseas areas the supporting infrastructure, especially suppliers, is not present making surfboard manufacturing more difficult.
9. Our domestic surfboard manufacturing industry will not quickly roll over and die. We have a large and very solid infrastructure in place.

PROMOTION

As mentioned earlier I cannot talk very much about promotion due to ethical constraints. Therefore, this will be a brief discussion and the underlying focus will be on the “sophisticated buyer”.

The overwhelming problem for us is that many methods of promoting surfboard sales do not differentiate between domestic or imported surfboards. The best example of this is the surf magazines who welcome new advertising and have given great editorial coverage for imported boards. Another example of this is using famous surfers to promote a brand or technology.

Surfing is a difficult sport. There are many types of waves and surfing styles. Conventional methods of promotion have traditionally failed and the best riding surfboards have normally outsold inferior surfboards - probably due to the nature of the sport and the difficulty of the sport. Much of the failure of conventional methods of promotion revolves around the “sophisticated buyer”.

There are a number of experts on the promotion or selling of surfboards. There are a number of effective techniques for selling surfboards. The “experts” are very aware of the “sophisticated buyer”.

During different periods, some promotional methods have worked better than others. For example, when there are a lot of beginners buying surfboards certain promotions are more effective than others. It is also possible to target different age groups, areas, and different levels of surfing ability. It is even possible to target the “sophisticated buyer”.

Warren Buffet, the world’s most successful investor, claims that one hundred

billion dollars would not duplicate the value of Coca Cola's brand identification. Companies like Quiksilver, Billabong, and Rusty have built similar clothing and accessory brand identification using, in part, surfing. There is a similar value in the contemporary surfboard manufacturing industry.

For surfboards, there is a similar but far more specialized and complex promotion method. How this is used in the future will be critical to the success of our industry.

I do not need to go into the details of the offers made by the overseas surfboard manufacturers. By now most board builders have figured out their future in this field. It is very short, and nothing more than a "fast buck". Those who have gone for the "fast buck" are probably dismayed at how competitive the field has become for endorsements. That happened almost overnight.

In my judgment, our long range promotion plan should be the nurturing and development of what I defined earlier as the "sophisticated buyer".

IMPLICATIONS OF THE SHAPING MACHINE

When the shaping machines were introduced, the following were the attractions for the established surfboard manufacturers:

1. Orders for the individual shaper or shop were exceeding or perceived as exceeding what the shaper or shop could produce or wanted to produce.
2. Quality control. (The later generation of shaping machines also offers precise design control as well as the storing of very precise data in a computer.)
3. Increase production with the same or less space and less employees or time spent per surfboard.
4. The elimination of the hassle of training new shapers who frequently would quit and go out on their own creating more competition in the local market or the overall market. Put another way kill the shapers and you kill your competition.
5. Less employees and the hassle of managing employees.
6. Full design control by the owner of the brand. (The reasons for this are, in my opinion, mixed.)
7. Expansion of production is very easy.
8. There are a limited number of shapers who were struggling with hand

shaping for various reasons such as a lack of mechanical shaping skills, health, and in some cases simply burned out or lazy.

9. Economically it appears that by increasing production the cost of the shaping machine would be easily covered, even if was more expensive than hand shaping by a skilled shaper. In other words by producing more surfboards per year, it would pay for an increase in cost per surfboard.
10. There was also another implication similar to the contract glass shop. The surfboard builder could focus on design/shaping and selling leaving the majority of the manufacturing to others. Therefore, the shaping machine may simply be an extension of a trend to contract out all work essentially taking most “manufacturing” out of the title “surfboard manufacturer”. This is a practice that is widely used in many industries other than surfboards.

Below are some of the more or less unexpected implications of the shaping machine:

1. Over shaping by a significant number of shaping machine operators has weakened many surfboards. (This has also been an additional expense as oversize blanks are more expensive.) The main causes of over shaping, other than choosing the proper blank and density, are failure to order a custom rocker and sloppy indexing in the machines - things that are fairly easy to correct and are a huge saving to the final customer. This undid a lot of very difficult to achieve gains in strength that were made over a long period of time. This is a major customer complaint and not enough has been done to address this problem. In the long run, if we alienate the “sophisticated buyer” with weak surfboards this may be a complete disaster for individual brands or it could take out our whole industry. In the last few years surfers more or less have to take what we give them as supply has been less than demand. When this reverses, and it will in time, we will find out the damage we have done to our industry.
2. A number of individual shapers or shops miscalculated and the demand for their boards was not as great as expected. In many cases, this has caused a financial disaster. Most of this problem has been limited to the smaller shops or brands.
3. Today there are a number of experienced shapers that make far less per year than they did before they started using shaping machines for their production. In many cases they are bewildered by this change in circumstances. Many refuse to return to hand shaping and some of these individuals will eventually starve themselves out of the industry. Some of these shapers are very, very important to the future

of our industry for the servicing and development of “sophisticated buyers”.

4. After a few years of shortages there is now an excess of shaping machine capacity compared to our glassing capacity. The shaping machine capacity is rapidly expanding. This is because one simply has to write checks to set up a shaping machine. This is opposite of a glass shop where the cost of setup requires special government permits and the training and management of a number of skilled and often difficult to manage employees. Glassing is also a tough, smelly, messy job compared to working on a computer. Where are we now? Too many shaping machines and too few glass shops! For the last couple of years this has really screwed up production and delivery.
5. Production surfboards are all starting to look quite similar as copying of the most popular shapes has increased using shaping machines. While the merits of this can be defended, we are opening the door to all molded surfboards as well as an all new image for surfing.
6. The advanced shaping machines are moving overseas allowing very low cost, imported surfboards to have the state of the art shapes and designs. This has completed the final step in “sub contracting” and one no longer has to do any manufacturing. This could not have been done without shaping machines (or molded boards). The original hand shaped imports were not accurate copies, as they had no developed hand shaping skills. (For what it is worth this is now being done domestically where a glass shop will complete a machine shape and the surfboard never goes to the brand owner’s facility.)
7. Many people forgot that the majority of shapers are usually good salespersons. This is especially true of younger shapers that are good surfers and in the water a lot. When we started substituting machines for shapers we lost many salespersons who catered to “sophisticated buyers” and especially the custom surfboard market. This value was not factored in to the cost of hand shaping a surfboard. In my experience, shop owners often resented their shapers bringing in their own customers and were even threatened when they brought in good surfers as their custom surfboard customers. Now these shops are often dependent on clueless retail sales clerks to sell their product when it is side by side with an imported machine shaped or molded surfboard.
8. Some hand shapers are doing extremely well financially by focusing on increasing their productivity. The people hooked on the shaping machines apparently have not noticed this simple math.
9. There have been some logistics problems attributed to shaping

machine services that have caused a significant increase in work in process. This is another expense that was not counted in the initial decisions to use a shaping machine. (This has raised hell with our production at Clark Foam as our orders now seem to come in unpredictable surges.)

10. There have been new entries to board manufacturing and unexpected expansion of production of existing brands based solely on the ease of becoming a surfboard manufacturer or expanding production using shaping machines.

I certainly do not want to leave the impression that the computer controlled shaping machine is not valid tool or production/design method. The growth in the number of machines is staggering. My point is that it will forever change our industry and everyone should be aware of the implications.

What the shaping machine will eventually do to the servicing and development of the “sophisticated buyer” is extremely important to our future.

NEW MATERIAL AND FABRICATION TECHNOLOGY

Most of the so-called “new technology” is simply a recycling of old ideas or incremental improvements on older technologies or materials.

An awful lot of people have worked on new material and fabrication technology. Many of these people have done excellent research and development work. They are to be commended for their efforts. From their efforts, we have learned a lot about things that do not work. Due to the magnitude of this effort, I personally expect no stunning surprises.

When discussing new technology the following should be kept in mind:

1. Whenever different technologies are applied to surfboard construction it seems like one improvement or advantage in performance is offset with an accompanying disadvantage in performance. This is almost like a law of physics or Moore’s law in the computer field. No one has been able to disprove this “law” since Hobie used his advanced glassing technology on improved polyurethane foam with a wood stringer to replace the older glassing technology on balsa developed by Simmons. The Simmons technology also had broken the “law” with the first use of fiberglass reinforced plastics.
2. Low cost labor and/or the absence of enforced worker health standards is not “technology”. It simply allows manufacturing or construction methods that would be prohibitive in cost or illegal in high wage countries.

3. A new technology is only successful if someone will purchase it. This applies both to the surfboard manufacturer and the surfer who buys the finished surfboard. This also includes the number purchased and whether or not the buyer will continue to purchase the new technology. (The best example of this is the fact that a very significant amount of our industry does not use the best available technology for building high strength to weight ratio surfboards. The consumers keep buying the weak boards even though a lot of them bitch about the boards falling apart.)
4. The “sophisticated buyer” is normally focused on performance in the water. (This is best illustrated by the improvements in polyurethane foam. As the foam increases in strength the industry automatically switches to a lower density, weaker core. At times this has been due to the ease in shaping, but overall the trend has followed higher in the water performance.)
5. For any technology to be commercially successful there must be an accompanying efficient, high volume, and high quality production capacity. (As an example, several of the technologies first discovered and produced in the 1950’s and 1960’s are very viable to this day. An efficient, high volume, and high quality production capacity was never developed, so the technology died. A contemporary example is some changes we would like to make in our foam. The problem we have is trying to figure out how to process the resin and how to meet oppressive government regulations.)
6. There are always small improvements in the existing technology taking place. This is frequently overlooked - especially by the surfing press where only dramatic change is recognized as newsworthy. When one adds all the small changes together, it is a very dramatic change.

I believe that any breakthrough in technology will be based on chemistry and newer materials. One thing to watch closely is for price decreases of some of the more exotic raw materials.

DURABILITY ISSUES AND CERTIFICATION OF QUALITY

For some unknown reason I was reading a surf story book written by a smart, educated guy who took some time off to become a “surfer”. In the book he referred to surfboards as being made of “cheap plastic”. That kind of says it all for his perception of our product and how long it lasts.

What brought on this perception?

There is currently a series of serious strength problems caused by a combination of over shaping, the wrong density blank or blank problems, excessive use of catalyst, some bad cloth choices, use of weaker resins, and other shortcuts in the glassing process.

There is a lot of denial and blame thrown about when the board builder is challenged by the end customer. (I have been blamed so much that I am numb to the charge.)

At this time, with the current shortage of glass shops, piecework shortcuts, and a widespread practice of over shaping, it is unlikely that our industry as a whole can do much about weak surfboards. These practices have been going on forever and so far the surfing public has been forced to accept what we dish out.

In time, however, imported molded boards, imports using better construction practices, and other technologies could begin to bring us down. If this happens, we will be forced to take drastic action.

When the best materials and practices are used, we make a product that is outstanding in performance and very competitive in strength. It is relatively inexpensive to step up to this level.

We have to be realistic and recognize that there are some people in our industry who will never, ever change. If some builders shape up, these people will still take the shortcuts just to tag along and make the extra bucks. This will be like a bunch of crabs in a pot of water being brought to a boil. One will start to get out and the others will climb on its back and pull it back in the water to die.

Other industries have faced this problem. The solution was to create a certification process administered by an honest, independent agency or do massive promotion.

In the case of surfboards, the certification process would probably use a sticker that went on each surfboard that would indicate the strength and durability of the surfboard.

If this idea seems far out I would mention that one surfboard manufacturer claims it has what is called ISO 9002 Certification. It is the Cobra factory in Thailand. This is meaningless to the surfer and our industry. It is huge if you are a parts supplier to any large manufacturer. (I believe Clark Foam could qualify as we copy a lot of the ISO 9002 procedures. No one would care if we did qualify so we do not try.)

The “sophisticated buyer” helps straighten this problem out by figuring out which surfboard brands fall apart and which ones last. The “sophisticated buyer” could also create a stronger competition based on strength and durability - just as they currently create a brutal competition for in water performance.

SUPPLY AND DEMAND CONSIDERATIONS

Normally our industry has had seasonal shortages caused by insufficient production by existing manufacturers. Absence of surf has been one of the reasons for a seasonal market. Traditional “summer at the beach” has been a factor. Temperature has been the other reason. The advancements in wetsuit technology have done a lot to make temperature less of a factor.

In recent years, the media hype over surfing and the use of surfing to sell everything from beer to clothes has caused a clear increase in demand for new surfboards. This is probably not a healthy or sustainable increase in demand but never the less it does represent a clear increase in demand. Whether or not it will continue, only time will tell.

The big question is who will fill this increase in demand?

During periods of high demand, our domestic surfboard manufacturing industry produces only as much as the weakest link in our manufacturing chain can produce. In recent years, a lack of sub-contract glass shops has put a limit on the maximum weekly production capacity of our industry.

Many like this situation for it extends the busy season. Many manufacturers have become complacent assuming everything is great and the backlogs will continue forever.

It is not going to work this way for long. Lack of supply will stimulate more production to come on line.

In the past, with our present situation, the increase in production would simply be more glass shops or increasing the production in existing glass shops. At this time, increased government regulation and other factors have slowed or possibly even stopped the expansion of glass shop production.

The cheapest place to increase production is probably Asia and they are currently building new production capacity. This will eventually cause some severe supply and demand imbalances.

Today when there is a shutdown of demand or a change in the demand for a specific type of surfboard our industry quickly changes production. The system is efficient.

With imports, there will be a longer lag or delay potentially causing extreme swings in the supply. The reason for this is simply shipping time. Local warehouses are being used to compensate for this delay and stocks of new surfboards will be kept near the points of final sale. There can also be large stocks of new surfboards kept in inexpensive storage overseas. Asian factories also have the ability to inexpensively expand and contract production as labor is abundant and employee training costs are, by our standards, practically free.

Our industry has tried to inventory finished boards at the manufacturer's facility or at distribution points but this system has failed in the past. The main reason for failure has been a rapid slowdown in demand or a change in customer buying patterns. Our industry has tried other methods to cushion the impact of high demand periods. Some of these methods have been very successful. Many of these methods may erode in effectiveness if retail dealers can simply pick up the phone and get boards from a local warehouse.

The net effect of the emerging situation may be an industry with no backlogs and supply meets demand all year. When there is a sudden surge in sales no one will want to put on extra capacity for they will know that Asian factories are rapidly increasing production and the market will shortly be again flooded with imports. When there is a decrease in demand or an error in production, there will be large stocks of finished surfboards. This will put pressure on prices, as some producers will discount and give longer billing terms to move dead inventory.

With warehouses stocked with new surfboards, the retailer will be in an excellent position. As long as quality is acceptable and there are plenty of surfboards available, the retailer will naturally focus on price and credit. Probably credit will become a major factor. Historically the retail outlets selling surfboards have, for the most part, been under capitalized.

We do not want our industry to be working from day to day with wild swings in weekly orders and production. It will increase costs and we will lose a lot of our workforce. The following are my suggestions for avoiding severe problems:

1. Fix the sub contracting bottleneck. We have shaping capacity that far exceeds glassing capacity. The current situation is ridiculous and the roots of the problem go back a long, long way. The first sub contract glass shops were set up by some very lazy surfboard manufacturers. Since that time the industry has evolved around tax law, government regulation, efficiency, relatively low entry costs for equipment, and laziness. Surfboard manufacturers have tended to work over the glass shops and, generally speaking, treat them poorly. This all has to change or we will pay a long-range cost that will far exceed the short-term results gained by the current surfboard builder, glass shop relationships. There are a lot of ways out of this mess. At Clark Foam we have studied Toyota and try to copy their techniques for handling suppliers.
2. Expand the methods used to work with retail surf shops. I cannot talk much about this subject because I would be disclosing secrets of Clark Foam customers. There are some very successful techniques. Probably the finest example of this is Wal-Mart. When you buy a bar of soap from Wal-Mart, the soap manufacturer knows about your purchase within hours. Their sales projection system is also excellent. At Clark

Foam we have an elaborate sales projection system and it works. When thinking about this subject just remember your customer can be lazy and simply contact a warehouse that can ship on the same day.

3. Again, concentrating on the servicing and development of the “sophisticated buyer” will serve as a strong barrier to an oversupply of more or less “commodity” surfboards.

It is interesting to note that the automobile industry has supply and demand problems. It may be helpful to study their problems with supply and demand and the most advanced solutions to their problem. Parts of this may apply to surfboards!

The automobile industry worldwide is struggling with problems of overcapacity and production cost differences. Imported brands now account for about one-half of the United States sales. Quality improvements now have very low cost Korean cars winning quality awards. Super low cost Chinese copies are expected to reach the United States in the near future. (Already most American cars have a significant number of Chinese made components.)

There has been a real scramble to cut costs and increase quality in the United States and Europe. This has been a life or death situation as many automakers are hovering on the edge of bankruptcy.

To remain competitive, much of the automobile industry has tried to move away from commodity type cars and now offer many models and options. Almost all of them use “just in time” parts delivery and flexible assembly lines allowing a wide mix of cars on the same assembly line. This has caused yet another problem - an oversupply of the wrong models and options. The car companies have reduced manufacturing costs and increased the number of products offered only to see the average finished car sit around unsold for a long time. At the same time, many models and options are backlogged for not enough were built. When they build too many cars of the wrong model or with the wrong options, they have to sell these cars at a discount further reducing their profits. Maintaining high inventories of finished cars is expensive.

A recent study suggests that so many of a car’s components are now built and assembled by common subcontractors that all new, more flexible, smaller car companies might even become viable. This study is probably quite disturbing to the already struggling larger automobile manufacturers.

Currently there is a worldwide leader in both profit per car and quality. That means they are ahead of the pack. What are they doing to take car manufacturing to the next level? They are trying to switch to custom order sales. This would eliminate the supply and demand problem.

The good news is that custom order cars is a solution to many supply and demand problems for the best automobile manufacturers. The bad news is that no

automobile manufacturer has figured out how to give quick enough delivery for this system to work. The leader was shooting for two weeks from the time of order to delivery but now think they will have to settle for about three weeks.

During the early and mid 1960's, the larger surfboard manufacturers tried to copy the American automobile manufacturers. This ended with disastrous results at the end of the decade. Within a decade, the American automobile manufacturers were in deep trouble. Therefore, I am quite reluctant to recommend copying automobile manufacturers. (I must admit at Clark Foam we think Toyota is the god of manufacturing.)

In this case, however, I think the reader of this document should think long and hard about the findings or direction of the best large automobile manufacturers.

THE SUPPLY AND DEMAND FOR CUSTOM BOARDS

When I started in this business almost all surfboards were custom built to either the surfer's specifications or the recommendations of the surfboard builder. If the best surfer in the world walked in the door, they got immediate service but still paid for the majority of their surfboard.

Surfboards were also built for specific waves.

I even remember who started the practice of giving free surfboards to the best surfers! It was very effective from the first day!

Today, the competition to get the high profile surfers riding your boards is fierce. The larger shops are paying fairly serious money for these endorsements. On the lower levels, getting a free surfboard is one of the few formal forms of recognition that our sport provides. "Did you hear so and so got a free surfboard from _____" spreads like wildfire among the surfer's peer group. The bigger the name of the brand the greater the peer envy.

The overwhelming majority of surfers receiving free boards are clearly in the category of the "sophisticated buyer". Furthermore, the top surfers demand custom surfboards even to the point that the sponsor surfboard manufacturer will hire an outside shaper to satisfy the demands of the top surfer.

The best surfers know they will not remain the best unless they have equipment that works for their style and goals. They demand good equipment and will walk away from a free board if it does not work.

As in the old days, when the world's best surfer wants a surfboard they go to the head of the shaping list and their board goes through the glass shop the moment the shape is finished.

Years ago I was on a trip with then the current AMA National Champion Motorcycle racer. He told a group of us that he knew at least ten unknown riders who were better than he. None of them raced, so they were unknown.

Now think about surfing. How many times have you been at a beach watching some unknown surfer totally ripping the place apart. The hot surfer probably does not enter contests, is not sponsored by a big clothing company, and does not know how to brown nose surf magazines. That does not mean he or she are not really great surfers - they are great surfers. They also have the same surfboard requirements as the big name surfers - but pay for their surfboards.

I am now going to get a little harsh.

I know a significant number of shapers who will stand very straight and stiff, bristle, raise their nose high in the air, and proclaim their shapes are the best in the world and all good surfers should be riding their surfboards. Today they might add that their boards are computer shaped (or molded) and available to all the great surfers of the world. The equipment problem is solved for everyone! End of story.

Ying Yong Foo is not stupid. In the emerging environment, he will copy their shape using his computer shaping machine (or make a mold). The shapes will be available at Wal-Marts up and down all coasts and even in the Japanese and European Wal-Marts. Our good surfer is also not stupid. He will eventually figure out the boards are identical and note the difference in price. He will buy the Ying Yong Foo and have money left over for a great surf trip. Forget about all the brand stuff - lets take the surf trip.

We literally have tens of thousands of really good surfers. They pay full price, cash money for their surfboards. In the past they have been "sophisticated buyers" and a significant number of them prefer custom surfboards. Some of them want custom boards for a specific wave.

In the past few years backlogs, especially glass shop backlogs, have cut the service for custom surfboards. This is bad for if this service disappears we may end up sending this market into the commodity surfboard and Ying Yong Foo.

Historically, the larger manufacturers have tended to shy away from custom orders with the exception of their "team riders" and a select group of the better surfers. This has opened the door for smaller manufacturers, many of whom start by doing all custom orders. At this point in time that may no longer fill the demand for custom surfboards as much of our industry is bogged down with a glassing shortage.

In my judgment, if we walk away from the very best surfers by not servicing the demand for custom surfboards we are walking away from our future.

THE SUPPLY AND DEMAND FOR CUSTOM GRAPHICS

Custom graphics are not directly related to what I defined earlier as the “sophisticated buyer”. Custom graphics, however, have been a part of surfing so does deserve mention if only for the fact that we need to supply this demand.

It is my opinion that the “Hot Rod” or “Custom Car” movement that started in Southern California in the late 1940’s was the prototype for surfboard graphics. The “Hot Rod” or “Custom Car” movement has spread throughout the United States and is a raging market at this time.

I once asked a psychiatrist I knew why surfers want their board to be different and why they wanted a part in the design. His answer was long, very clinical, right from a textbook, and made perfect sense - but it was far over my head. What I got from the conversation is that humans go for this stuff.

Surfboard graphics go through trends. There was a period where it was cool to have decals all over your surfboard. There was even a period where it was really “cool” to ride a very crude, home made surfboard with psychedelic graphics. Different graphics have come and gone. Stringers may be considered a graphic and we have even had stringer trends. Much to my distress, tints that show all the imperfections in a blank have come in and out of popularity several times.

When airbrushing and the more advanced artwork arrived, it expanded the graphics and surfboards stepped far into the art world. Some of our artists have degrees from art schools. It is my opinion that the high level surfboard graphics helped bring the clothing and other identity advertising into the surf world.

Ying Yong Foo can copy the all clear machine shapes and make solid color molded boards with great skill. He has an unlimited supply of good artists that are free by our standards. While his artists can do a far better job than ours depicting a water buffalo working in a rice paddy, they know nothing of the art our surfers like. To fix this Ying Yong Foo has “spies” with digital cameras who can send him photos of our latest work over the Internet.

My point is that anything that can be standardized will be copied for far less money in low cost countries. This includes graphics.

When our custom order system is slow or inaccessible we lose the custom graphics market. Just like custom shapes, if we walk away from this market we are walking away from our future.

EFFICIENCY IMPROVEMENTS TO COMPETE WITH IMPORTS

During the 1960’s there was a boom in surfboard sales followed by a sharp downturn in sales that lasted for quite a few years. This was the only time an event like this

has happened in the surfboard industry. The lesson that can be learned from this event was that almost all surfboard manufacturers had to rapidly downsize. They either got very efficient or they disappeared. Many well known manufacturers went out of business. The retail specialty surf shop network was severely damaged. New surfboard prices dropped significantly.

If imported surfboards make big inroads into our market we can expect a similar situation during the next few years.

In reading numerous books and articles on business as well as living through the big downturn in the late 1960's, it is common knowledge that the time to get efficient is when things are still good.

Here is my judgment on the efficiency of Clark Foam's customers:

1. Some are extremely efficient and have a very high profit per surfboard. Many of these customers could both downsize and sell for less.
2. Some are currently operating on thin margins and would have difficulty downsizing. In this category are operations with high overheads or high manufacturing costs. Most of the high per board cost operations are subcontracting out the majority of their work.
3. Some have very little invested, a small overhead, and subcontract out much if not all of their work. This class of builders varies in profit per board from very high to marginal. Many of these builders can contract in size and even sell for less. Most seem unconcerned about the future. What many of these builders do not understand is that in times of financial stress their subcontractors may disappear.

Some subcontractors operate at a very high level of efficiency. This is a strong point in our industry. It is very flexible manufacturing for subcontractors can move among different customers following the demand.

Historically in our industry the concept of a highly skilled individual working on piecework has been the normal method of operation. Traditionally the pieceworkers have been very independent and often rebel against any form of management or business structure. Many demand part time work and refuse to adhere to regular production schedules or working hours. Formal training programs are almost nonexistent in areas where there are clusters of board builders. Once trained, a worker can simply move to another shop where pay or working structure is better. Therefore, the shop that bore the expense of the training is often at a disadvantage.

When I started working in the surfboard industry my full time occupation was really surfing and some other activities I prefer not to disclose. I worked for surfboard builders to make just enough money to spend the majority of my time

surfing. Fairly flexible hours and very high per hour pay was the incentive for choosing my occupation. In dealing with surfers (like me), piecework was the easiest and possibly the only way to manage.

As time went on certain individuals figured out that if they worked full time and/or worked very efficiently they could make a lot of money exploiting the “piecework system”. These individuals have a very vested interest in protecting the status quo.

On one extreme, we can defend our piecework and management systems. We can claim they have produced the best surfboard end product the world has ever seen. This may be true.

On the other extreme, the argument can be made that we have the equivalent of a very strong, overpaid union workforce and the management in our industry is both obsolete and lazy.

If we encounter serious competition from low cost countries the following are some of our “efficiency” options:

1. Simply try to maintain the status quo. This can be attempted through political channels with tariffs and quotas, like Australia successfully did for decades, but at the present time most politicians and economists are advocating free, totally unrestricted trade. A viable option for maintaining the status quo is the full cultivation of the “sophisticated buyer” using some of our older models of surfboard manufacturing and sales. A more dangerous option is advertising/promotion for anyone can use this method to sell any surfboard made anywhere.
2. Try to improve efficiency through small, incremental changes. This is very effective, but results are never very dramatic and often difficult to measure.
3. Invest in more efficient plants and equipment. This has a somewhat limited value due to the nature of our product and our existing industry infrastructures. It might make sense if done in conjunction with other changes.
4. Switch from the traditional surfboard industry management techniques to modern textbook management methods. This is probably what our overseas competition will use. It is effective. The problem will be massive resistance at all levels unless such changes are made under severe distress.
5. Develop new manufacturing technology. Good luck on this option. Since I have been in this business there have been a staggering number of people thinking and working on a “new surfboard”.

METHODS OF SALES AND DISTRIBUTION

Forty some years ago was the first time surfboards were sold through dealers. Prior to that time all persons buying a new surfboard had to go directly to the manufacturer. The buyer normally spoke directly to the individual who made the surfboard. During these early periods, the servicing of the “sophisticated buyer” and the development of the “sophisticated buyer” was easy.

Today, probably the highest concentration of “sophisticated buyers” is on the North Shore of Oahu, Hawaii. The average level of surfing ability is probably the highest in the world. There is also a concentration of specialized shapers unparalleled in the world. Many great surfers and shapers from other parts of the world travel to this area for the winter big waves. The servicing and development of the “sophisticated buyer” is probably at the highest level of any area in the world. While this area is used extensively for the promotion of larger surfboard manufacturers, in the water there is little connection to the large brands and their promotions. If anything, this area is closer to the surfing world before surfboards were sold through retail stores.

I will not go into the North Shore and other areas that are similar to the North Shore any further in this document. Everyone understands this part of our industry. This model of surfboard manufacturing and sales is deeply entrenched in our sport and, if anything, serves as a model for our future survival.

In trying to determine our future, and how it ties into the very important “sophisticated buyer”, I find an analysis of the various contemporary methods of selling surfboards through retail outlets a helpful tool. Below is a rather crude analysis going from bad to good:

1. Giant discount chain stores like Wal-Mart and Costco. My guess is that these chains are selling imported surfboards in part due to the incredible publicity surfing is currently getting and in part because they are able to sell imported surfboards at such a low price. Surfboards spruce up their drab image and at the same time leave the customer with the impression that everything they sell is cheaper than all other stores. Long ago the first Costco in Hawaii tried to sell surfboards. The quality was poor and the shapes sucked. They dropped the idea. Now the larger discount chains are carrying surfboards. The quality is good and the prices are low. I do not know how serious these chains are at this time. When they put the full power of their incredibly efficient procurement and distribution systems on a product they will have prices no one can touch. It is my guess that they will settle on a fairly good quality surfboard and copy the very best selling contemporary shapes. The “sophisticated buyer” may be able to find a bargain price board in these stores but normally their selection will not be adequate

to service the majority of the “sophisticated buyers”. These stores will always stick with imported surfboards due to price. If these chains get really serious about surfboards they could destroy a great part of the retail surf shop network.

2. Conventional sporting goods or other conventional stores. These stores will expand into surfboards if the large discount chains are successful. They will use imports due to low cost and will probably depend on their suppliers for design and product mix, as most of them do not have expertise in surfboards. They will probably not do as good of job as the large discount chains that have better inventory control, procurement, and distribution. They will probably have even less to offer the “sophisticated buyer” than the large chains due to selection and higher prices. If we find a larger portion of new surfboard buyers are not “sophisticated buyers”, we will probably see a large increase in these type of stores selling surfboards. These stores will tend to tie into the sales and distribution networks that are being set up to sell imported surfboards. This could end up being a serious if not devastating threat to the specialty surf shops, as they will be providing the expertise to help their suppliers expand into new channels of retail sales.
3. Marginal specialty surf shops. I will define this type of store as specializing or professing to specialize in surfboards but it would be difficult for a wide range of really good surfers to be able to find a suitable surfboard in the store. I do not want to offend anyone for many “marginal” surf shops have great intentions, know what they are doing, or are in remote areas serving a need not filled by other stores. The extremes range from very dedicated and knowledgeable surf shops carrying boards matched to local waves that may eventually grow into a very good surf shop to people who are simply trying to cash in on the popularity of surfing. Many of these stores use the word “surfing” simply to attract traffic to sell items other than surfboards. The majority of “marginal” surf shops have a poor inventory selection. The majority of them carry brands that give generous credit and recently some of them seem to favor imports. These shops normally have little to offer the “sophisticated buyer” and do little to develop a new “sophisticated buyer” unless they are closely tied to a good brand or our industry. Unless the marginal shop can fill their needs by a custom order the “sophisticated buyers” will normally buy from a local manufacturer or travel further to buy a surfboard that better fills their needs. If these surf shops are under pressure from a local board manufacturer or a high quality surf shop, they will often switch to imported surfboards due to price and credit. The imported surfboards also offer them a unique product not available from a local surfboard manufacturer. Due to their small inventories, availability is important to these shops.

4. Multi brand full service surf shops. My definition of this type of surf shop is one where a “sophisticated buyer” can eventually find an off the shelf surfboard that will fill his or her needs. This is normally accomplished by having a number of brands of surfboards and a selection that is broad enough to satisfy the special requirements of a wide range of “sophisticated buyers”. The competition among board manufacturers to get rack space in these surf shops is fierce. Many “sophisticated buyers” buy their surfboards from these shops. For decades it has been a common practice for the “sophisticated buyer” to visit these shops frequently until a surfboard they like appears in inventory. Then they buy. By my definition, the “sophisticated buyer” does not need help from a sales clerk to pick his or her surfboard. Therefore, these shops normally do not have on the floor sales people who will develop a new “sophisticated buyer”. The majority of these shops do not cater to custom orders nor do they have sales clerks capable of taking a custom order. (In all fairness, there are some very, very qualified people working the floor in some of these shops but they are the exception rather than the rule. The owners of these shops are, however, normally very knowledgeable.) These shops are very brand and promotion sensitive and most try very hard to feature well known or well advertised brands. Since shaping machines and molded boards have offered surfboards in uniform sizes, the tendency has been to feature a fewer number of brands and use the big name brands for the majority of their high quality inventory. Among other things, this makes ordering and inventory control more like their “T-Shirt” inventory. These surf shops derive the majority of their income from items other than surfboards so their main concern is traffic and image. As a group, this makes their interest in our industry very limited. Probably the largest and most successful of these shops pioneered the private label, cheap import. Probably the main reason for this was the fact that the store could not compete with a cluster of small surfboard manufacturers in the local area. In recent years, a large number of these shops have embraced imported surfboards and are decreasing the number of domestic brands they carry. Some even take the knowledge gained from their domestic suppliers and pass it to the foreign suppliers to gain from their lower manufacturing costs. This is a dangerous situation.

5. Single or limited brands full service surf shops. This is, by my definition, a shop that tries to emulate the old fashioned, local surfboard manufacturer while at the same time taking advantage of the income from items other than surfboards. On one extreme, they cater to the “sophisticated buyer” by having a large inventory selection of surfboards designed specifically for the local market and local waves. On the other extreme, they cater to the “sophisticated buyer” by relying on custom orders. Most of these surf shops do offer custom orders and

they tend to have a higher technical level of sales clerks. They do develop “sophisticated buyers” because they cannot rely on a selection of self-selling, big name brands to cover all buyers but must push the technical features of a specific brand. Many of these shops are closely tied to a manufacturing facility further increasing the technical level of sales clerks. This reinforces the development of the “sophisticated buyer”. These shops are closely tied to the domestic industry, as they are rarely involved with imports.

The above crude analysis of the contemporary methods of selling surfboards reflects where we stand today. As with any crude analysis, there are exceptions and the analysis may not give a totally clear picture.

Profits, promotion, and customer demands will dictate change to the current status quo in the retail outlets a lot more than anything our industry can or would be willing to do.

Again, the “sophisticated buyer” appears to be the main key to keeping surfboards from becoming a commodity made primarily in low cost countries.

CONCLUSIONS

The following two issues are not well covered in this document and represent shortcomings of this document:

1. The effects of promotion or advertising on both domestic and imported surfboard sales - including both highly customized and commodity type surfboards. This includes word of mouth or peer promotion psychology.
2. Details of any technology or design that would result in a dramatic change in surfers’ buying patterns.

Either of the above two issues could cause a very significant change to our industry or they could help maintain the status quo.

The following appears to be a very clear analysis of the changing surfboard industry:

1. The infrastructure for building surfboards in high cost countries is developed and firmly in place - including a high value brand identification and goodwill. Included in the infrastructure are manufacturing facilities and a highly trained workforce. It will continue to operate but may be put under stress by imports causing changes and even improvements in quality and efficiency or productivity. At this time, other than a rapid increase in the building of computer controlled shaping machines, the United States surfboard

industry's infrastructure is not expanding to meet the recent increases in demand.

2. Shape design innovation and custom shaping will stay near the larger populations of good surfers and will remain quite competitive although the number of shapers could decrease due to shaping machines and imports.
3. Due to the difficulty of surfing and the nature of surfing, good surfers will want the best performing surfboards for the type of wave they will be riding and will pay for quality. To fill this demand requires a wide selection of surfboards that will be difficult to replicate with a "commodity" or generic surfboard. The best surfers have very, very specialized surfboard needs and normally want custom boards. This will probably continue indefinitely, and it is doubtful there will ever be standardization. There is also a continuing demand for custom boards. This is all in our favor - if we can supply the demand.
4. Any (standardized) labor intensive, or straight molded surfboard construction can now be done significantly cheaper in low cost countries possibly even using cheaper raw materials and equipment manufactured in low cost countries. The manufacturing capacity for these types of surfboards is rapidly expanding. These boards, even with endorsements by shapers or later good surfers, will tend to be like commodities and sold through many distribution channels. This will eventually weaken specialty retail surf shops.
5. Most design, equipment, materials, and construction technology will move to low cost countries at an ever increasing rate of speed. This will include computer controlled shaping machines.
6. New construction, fabrication, and management innovations can take place anywhere on earth. It is quite possible they will take place in low cost countries where trained college graduates, especially engineers, are cheaper.
7. Unless there is a change in circumstances, such as devaluation of the dollar or disruption of commerce, the demand for reasonably high quality, low cost commodity surfboards will be well filled by surfboards made in low cost countries.
8. The advantages of low cost countries extend far beyond cheap labor but also include inexpensive facilities and support business/infrastructure, easy financing, and less oppressive government regulation. In places like California, the government regulation component could be the most significant advantage of manufacturing in low cost countries.

9. At this time the goals of the manufacturing, distribution, and retail components of the surfboard industry are wide ranging. On one extreme is the old, traditional surfboard manufacturer and retail distribution system. On the other extreme is a relatively new set of forces trying to turn surfboards into more or less a mass produced commodity that differentiates surfboards through promotion and/or price. It should be the consumer that decides the winner. Unfortunately, errors or the application of pressure by powerful interests could force the outcome.

My conclusion is still based on the “sophisticated buyer” as defined in the introduction to this document. If this type of buyer disappears, which is highly unlikely, then our market will eventually disappear. If this buyer exists in large numbers and we can both service “sophisticated buyers” and develop more “sophisticated buyers”, then I believe we will remain in good shape.

