# FROM FURNACE TO FLOOR TO FACADE, THE CONTINUING EVOLUTION OF CERAMIC TILE DISTRIBUTION

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As a preface it must be stated that the views expressed herein are not those of the Australian Tile Council, and whilst there is a consensus of opinion that many of the future developments promulgated in this communication are likely to take place as discussed, these are the private views of the Author.

It has been said that God was the original ceramist as he took clay and from it made the first man Adam. Man himself fired clay into plain utensils having noted that this natural material that he had probably observed after seeing an impression of his footprints in it, when combined with other naturally occurring items could be transformed from a shapeless mass into something of use. These simple discoveries which enabled man to eat from bowls rather than from his hands were to change the course of the life of Man and start him on the path for the development of civilisation. This is the first instance where history notes that ceramics and their intrinsic quality and qualities have had a direct influence on man. Apart from the discovery of fire itself ceramics have had one of the important effects of all in the development of man allowing him to settle in permanent structures made of "fired" and "sun dried" bricks rather than remaining a nomad. Whilst not claiming that ceramics were the reason for mans upward climb and his quest for knowledge there is no doubt that aided by an environment of being able to live in permanent shelters and thus avoid the vagaries of the weather certainly gave rise to the opportunity to think in more esoteric terms and address future issues. It is much easier to develop philosophies and theories when one is spared the discomfort of being tormented by the elements.

*Fig. 1. "Glorious Ceramics" Agrob Buchtal Keramik - Schwarzenfeld Germany.*

However apart from these very important, if functional, items which in themselves had became decorative as well as practical, a few other uses for ceramics were evident. Man had entrusted his sacred icons to this fired clay as a more permanent way of retaining them and in this way we have been provided with ample proof of the durability of this material. The use of ceramics developed in a number of areas at similar times as the clay required was spread across the whole of the globe, though of course the ways in which these clays were used varied. The Ancient Egyptians improved the quality of their decoration by replacing paintings which faded with large ceramic reliefs such as the 3,200 year old Faience tile which includes King Rameses II Royal seal in the design.

The Ceramic Tile Industry has come a long way since the first discovery that firing a piece of clay with some pigments and other materials on its surface would produce an aesthetically pleasing yet extremely durable and practical wall and floor cladding.

The major historical masterpieces of ceramic tiling were generally commissioned in much the same way that the works of musicians, poets and other artists who largely depended on the patronage of the Royalty, nobility and wealthy of their time. The "Ishtar Gates" (Fig. 2) commissioned by King Nebuchadnezzar II c 580 BC which are part of the famous Procession Street a very fine example of this patronage and its the wonderful creations. Meanwhile the Christian


*Fig. 2. "Glorious Ceramics" Agrob Buchtal Keramik - Schwarzenfeld Germany.*

Church was the mainstay of the encaustic production of ceramics in it's growing need to establish Cathedrals in strategic locations throughout the whole of Europe whilst at the same time Maiolica works were also being introduced. Elsewhere other religions were inspiring beautiful works of art made from brilliant new faience tiles some of these otherwise rather ugly buildings (c 1580 AD) were turned into works of art with these tiles which it is said are so brilliant in the sun that they outshine even the effect of real turquoise from which colour they take their inspiration. Whilst to a large extent the Artisans who performed much of this work have over the years disappeared, the works undertaken in an increasing number of refurbishment's of historical buildings in recent times has brought about a revival of these ancient techniques to the extent where completely new "old technologies" have had to be introduced to cope with the eccentricities of the production of material which cannot be achieved with modern technologies, a triumph for the concept of craftsman made materials and the quest for quality.

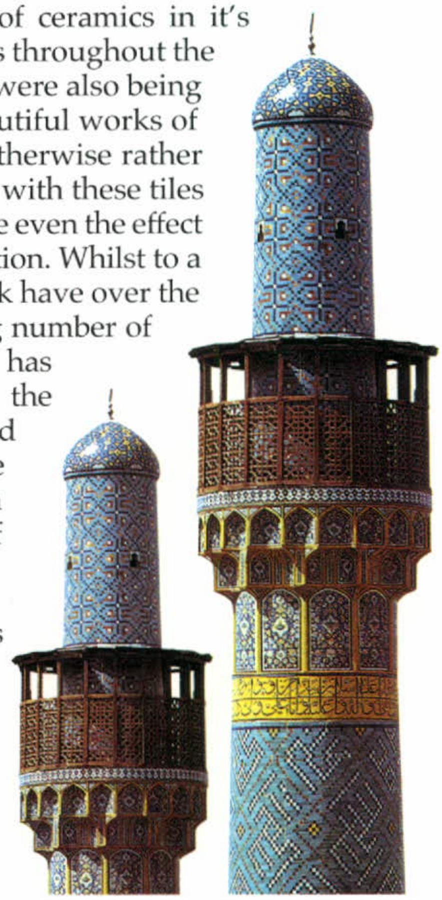

*Fig. 3. "Glorious Ceramics" Agrob Buchtal Keramik - Schwarzenfeld Germany.*

However the very fact that this has occurred serves to illustrate dramatically the difference between a consumer driven industry where capacity was decided by the "order book" and the availability of manpower and raw materials, and the manufacturing driven society which was brought on by the onset of the Industrial Revolution. The innovations which followed were to change forever the way that the Ceramic tile, and for that matter, all other industries would function world wide. With this growth in the amount of ceramic tiles which could be produced by the new machines, the need for an effective means of distribution of these ever increasing quantities of material available became essential. It was no longer possible for production to all be sold at the "factory gate", the age of the "Entrepreneur" had arrived. No longer was it a case of, "we only have this item available", it was now a matter of sales targets, margins and turnover of stock.

The story is told of the end of month Friday sales meeting held at an unnamed ceramic tile factory in Europe during the early eighties when the National Sales Manager, beset by the problems resulting from decreasing sales and an ever burgeoning stock level decided to "end it all" by throwing himself out of the third storey office window only to land safely thirty centimetres below on the pallets stacked outside the building. Whilst this may seem a fairly flippant remark to make in a paper concerning itself with the future of an industry, we can all learn a lesson from the past, if we would only choose to.

Worldwide the development of distribution systems has taken very different turns in the various regions and even today as the economies of countries continue growing and changing not only does their method of delivering the material to the consumer but their degree of interaction and communication with the manufacturers. Later on I shall show some figures regarding production and consumption in the regions of the world where the greatest changes are taking place in the ceramic tile market and indeed many consumer markets which did not previously exist. For the purposes of this communication most of the focus will be away from the older and more "traditional" markets of Europe and North America with which I am sure you are all most familiar, rather I shall be focussing on to those of the developing regions where "it is all happening" (one way or the other) as the financial analysts like to say. Without a doubt these areas are the economic powerhouse's of the next millennium and require the closest examination.

The Ceramic tile Industry is probably unique in terms of what it manufactures. In all other sectors more and more products have a built in obsolescence either as a result of constantly advancing technology (Computers) or because of fashion trends (Haute Couture) or just because they wear out eventually (Cars, shoes, clothing, etc.), yet we are making quality products which we promote as being timeless and "guaranteed for a century", indeed the technological advances and quality systems that have been implemented are such that we are now virtually ensuring that the product is almost "everlasting". How in this age of "disposable" and short life cycle products do we feel that we can sustain making and distributing ever increasing quantities of the ultimate "consumer durable" good, well it is most likely that it will not be possible to continue to do so with either the same haste or blind eyed optimism that we have shown in the past and are currently continuing to evince. The constant requirement of machinery manufacturers to sell their ever more efficient and sophisticated machinery is placing the means of manufacture in the hands of those who have traditionally mainly competed on the basis of their less expensive labour forces, now they have the assistance of these automatons to add to their competitive edge.

What we shall ultimately require is a long and searching look at where the entire industry is heading and where and how we can create new markets. Our future in distribution - defined in the Oxford dictionary as ***"Dispersal among consumers effected by commerce"*** may no longer be what we have thought was traditional or have accepted, new forms of distributing as well as new target markets will come into being. We have built up in our organisations and our personal perceptions that the method that we have is fine because it works. This is a dangerous and naive attitude that has been the downfall of Political and Financial empires alike, and history has many examples for us of those who for whatever reason would, or could not adapt to what was happening around them. The warning I am giving is that we should not allow ourselves to become the 20th Century Dinosaurs when the inevitable changes which are rapidly approaching become the "new reality" with which we will be forced to live.

If for any reason we believe that it can't happen to us, we should reflect on what has happened to, and is still happening to some of the worlds largest and arguably most profitable companies. General Motors, IBM, Apple Computers, Mercedes, Panam all were in virtually impregnable positions in their particular markets and made massive profits. Each in their own way had, and still have quality products, therefore obviously quality in itself is no guarantee of success. So what happened? The unthinkable occurred, changes came about in consumer tastes and requirements which, for whatever reason, they chose not to react to, or possibly as it did not fit in with their perception of the markets direction, they chose to ignore. The ultimate effect on the manufacturers and their distributors was the largest series of corporate losses ever sustained, which in some instances amounted to more than the combined GDP of several of the emerging African and Pacific Nations. The effects of these problems were felt around the world as hundreds of thousands of direct and indirect job losses occurred as the resulting rationalisation programs were put in place.

At this point I would like to just show a few examples of how diversified even the current distribution systems look and operate, which will serve to illustrate how the local conditions dictate how product reaches the consumer. Most of us will not remember the early days of distribution of ceramic tiles but it could well be that versions of what we see here may have been the precursors of our current systems.


*Fig. 4. Fig. 5. Grahame Harris - Beijing - China.*

A note of caution here, what is depicted is not intended to show how "backward" any given country may be, but rather how ingenious people, particularly in China, have been in adapting their circumstances to best take advantage of the commercial opportunities available to them. "If Mohammed cannot go to the Mountain then the mountain must go to Mohammed" would appear to be the motto of this street seller (Fig. 5) in Beijing who literally "peddles his wares" on the street, remember we are looking here at a country where there are few private motor cars, bicycles are the norm. To better serve their clients the distributors carry as far as possible all the necessities of life as far as goods and services that can be supplied (Figs. 4 & 6).

The development of distribution systems in North America and Europe have had a decided effect on Ceramic tile manufacturers with the introduction of "home brands" or specific designs and even collections made by agreement for distribution through a variety of large chains of company owned or franchised shops. The "sheds" which seem to have a stronghold in Europe and particularly the UK have brought DIY packaging to consumers with unitised (half square metre or yard) sales and convenience packaging an

*Fig. 6. Grahame Harris - Beijing - China.*

essential part of this marketing strategy which has proved extremely successful. This "chain" sale has had a major impact on manufacturers who have become involved in their evolution. The ability to have guaranteed sales for large production runs of specific ranges has had the benefit of allowing for diversification in other areas where they would not have ventured without this large sales base already in place. The one problem with this type of operation is the degree of dependency which results from these distributor/manufacturer arrangements. These arrangements when they do collapse (as has been seen in North America) can be quite devastating to the supplier. Whilst there may be little in terms of financial problems if sensible arrangements for payment were in place, a large inventory of branded "Fred Schmidt & Co" goods present a logistical nightmare in terms of either repackaging to obtain a reasonable market selling price, or straight out markdowns to just quit the stock.

*Fig. 7. Fig. 8. Hynes Tiles - Melbourne - Australia.*

Probably unique in the world of Ceramic Tile Distribution is Australia, basically a "Western" country located in the extreme Far East. This geographical isolation and the small population spread over a vast continent together with a healthy respect and understanding of the usage of ceramic tiles has led to the development of vast numbers of Independent retailers and true "Wholesalers" who do not retail but merely import and hold stocks of material to sell to the clients in their "State". The demographics tends to make each "State" a discrete unit, distances from Capital cities being a barrier to general interstate trade. This very isolation and predisposition to the usage of ceramic tiles (three times per capita that of the United States) will assume significance later in this communication. Within the ranks of the retail distributors more emphasis is being placed on offering a complete range of natural flooring products and accessories, and the concept of a total design service is becoming increasingly popular. At all times the theme remains quality, in-service practicability and long term cost benefits to the client.


***Fig. 9.*** *Beaumont Tiles Melbourne - Australia.*

So what we do to increase the amount of material that we can sell, well firstly we must jointly do some *Edward De Bono*, **"Lateral Thinking"** and particularly we as the Distributors who are at the "coalface" and meet with Architects and Designers, it is our mission to create the image and desire, then we must be able to address the different possibilities that exist including someone to manufacture what we conceptualise. In Figs. 7 and 8 we have some very unusual applications for ceramics which provide a little mental stimulation in terms of what are they???

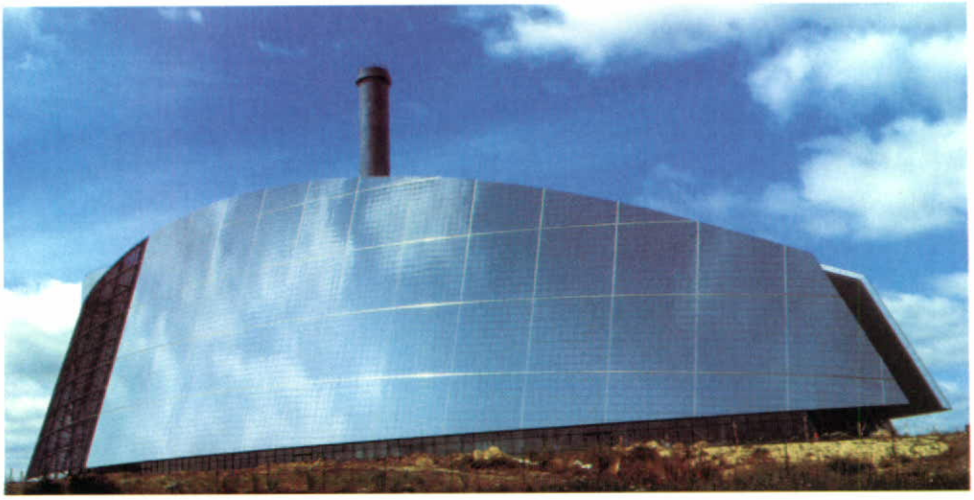

***Fig. 10.*** *"Keraion Façades". Agrob Buchtal Keramik - Schwarzenfeld Germany.*

Evidently it is quite difficult to pick what these applications represent so rather than leaving everyone in suspense I will elucidate .The first object in Fig. 10, is a power station in Denmark. The creative use of ceramics has served to disguise what would normally be an eyesore, but apart from the aesthetics there is a philosophical import: the design when seen from above shows the ceramic walls are like hands held around the core of the power station, the inference being that man should always have control over energy and protect and preserve the environment. In Fig. 11, a plant in France for the conversion of waste material into electricity is enhanced by a huge, uniquely decorated ceramic tiled facade; again the beauty of the ceramics adding to the overall quality of life through its visual impact which otherwise would have been yet another man-made industrial eyesore. Our reliance on energy production plants is with us for the foreseeable future, the point is that by using the intrinsic beauty and quality of ceramics we can make a contribution to at least minimising the visual pollution of our environment.

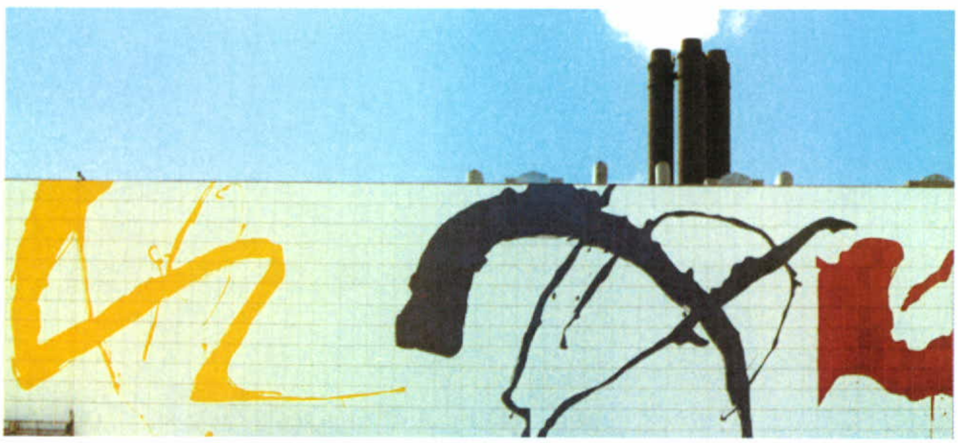

***Fig. 11.*** *"Contact 68". Buchtal Keramic - Schwarzenfeld Germany.*

So given that we can take basically any structure and enhance not only its serviceability but its contribution to the aesthetics of a given environment, then we must accept that there are really no limitations except those of budget to what can be achieved in the use of ceramics as a cladding. Almost everything else is possible and we must use this to create markets. Surely it must an achievable target to raise the worldwide consumption of ceramic tiles from 0.5 $m^2$ per capita to at least 0.6$m^2$ per capita. This alone will add a market of a further 500.000.000 $m^2$. To give some idea of how the world currently produces and consumes ceramic tiles the following table is furnished.

The balance of this production is however changing, and more rapidly now than at any time in the past with the emergence of the Asian Pacific region as a "powerhouse" of development. No growth proceeds unchecked "ad infinitum" and whilst the overheating of various economies will bring around share market problems which act a safety valve for all the worlds economies, there is nothing more certain than that these economies will also recover and continue their charge well into the 21st Century. The following chart gives some idea how the production looks to be changing with the onset of the next millennium. Quite clearly it can be assumed that Europe as the major source of Ceramic tile production from time immemorial will lose that mantle to Asia.

What can be seen from this chart is the massive oversupply of ceramic tiles which will be originating in this region in the next three years or so which when combined with the likely levelling off of their own domestic market requirements and added to the surplus material from the current major producing countries will start to bring about the painful and inevitable changes which I am postulating. It is simply not possible to sustain

**WORLD CONSUMPTION OF CERAMIC TILES COMPARED WITH PRODUCTION (1994 FIGURES) IS AS PER THE FOLLOWING TABLE**

| Area | Production( K sq.m.) | % of total | Consumption(K sq.m.) | % of total |
|---|---|---|---|---|
| European Union | 1.023.000 | 38,1 | 811.000 | 30,7 |
| Other European countries | 203.000 | 7,6 | 234.000 | 8,9 |
| North America | 96.000 | 3,6 | 165.000 | 6,2 |
| South America | 401.000 | 14,9 | 373.000 | 14,1 |
| Asia | 860.000 | 32 | 932.000 | 35,2 |
| Africa | 97.000 | 3,6 | 110.000 | 4,2 |
| Oceania | 5.000 | 0,2 | 19.000 | 0,7 |

**PRODUCTION OF CERAMIC TILES IN THE MAJOR NON EUROPEAN/NORTH AMERICAN COUNTRIES**

In '000 sq.m. Estimates if not provided by country of origin based on average of last three reported years

| Country of origin | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|---|---|---|---|---|---|---|---|
| Brazil *** | 242.900 | 295.000 | 336.400 | 430.000 | 473.000 | 520.000 | 572.000 |
| China ** | 400.000 | 400.000 | * 450,000 | * 500,000 | * 600,000 | * 675,000 | * 750,000 |
| India ++ | 35.000 | 39.000 | 43.000 | 48.000 | 53.000 | 60.000 | 69.000 |
| Indonesia **** | 130.000 | 139.000 | 157.650 | 219.000 | 260.850 | 265.000 | 265.000 |
| Korea ++++ | | | 52.000 | 57.000 | 63.000 | 70.000 | 78.000 |
| Malaysia +++ | | | 80.000 | 86.000 | 93.000 | 101.000 | 110.000 |
| Taiwan | 65.000 | 69.000 | 75.000 | 83.000 | 89.000 | 96.000 | 105.000 |
| Thailand | 68.000 | 84.000 | 96.000 | 100.800 | 106.200 | 112.100 | 118.000 |
| Turkey + | 70.000 | 85.000 | 143.400 | 158.000 | 174.000 | 192.000 | 212.000 |

Notes
* Estimated growth using information from construction industry sources
** Whilst data is collected by Bureau of Statistics it is not published for general use
*** Data assembled by Anfacer estimates from their predicted growth
**** Based on industry data supplied by manufacturers
"+" Based on data from Tile & Decorative surfaces(1996) and industry data and predictions
"++" Based on Tile & Decorative surfaces(1996) and industry growth predictions
"+++" No data available pre 1996, growth based on industry estimates
"++++" Based on industry statistics for '96 and growth estimates for the country

**ESTIMATED SURPLUS OF PRODUCTION OVER LOCAL CONSUMPTION IN 2000**

| | |
|---|---|
| Brazil | 50.000 |
| China # | 15.000 |
| India | 10.000 |
| Indonesia | 78.000 |
| Korea | 8.000 |
| Malaysia | 20.000 |
| Taiwan | 15.000 |
| Thailand | 35.000 |
| Turkey | 85.000 |
| Total | 316.000 |

Note: China is assumed to continue to consume 98% of its own expanding production in its cotinuing growth towards becoming the worlds largest economy which means it will outstrip both America and Japan before the second half of the next millennium. All other surpluse are based on local consumption remaining at the same level as currently experienced, any subsequent economic slowdown in any of the other tabled countries will of course increase the amount of material available for export.

the continuously accelerating growth in production given the foreseeable growth which will take place worldwide. This is even without any of the production from China ever reaching the export market in any great quantity. If for any reason there were to be a downturn in the construction industry in that country and there was a move to increase exports to the rest of the world there is no way to even estimate what effect this may have.

One may ask the question, what aspect of the potential change to the distribution of ceramic tiles is relevant to the concerns of Qualicer?, well the answer is probably everything!!. What is now emerging is a completely different philosophy regarding how a market should be approached. We are talking the philosophy of long term planning which looks twenty years into the future, not the three or five years which pervades our thinking. In addition what we are facing is not just a grouping of Ceramic Tile companies, but Conglomerates consisting of Motor vehicle, Raw material,Chemical processing, Property owning, Transport and Banking entities with stable forceful and highly skilled and motivated Managements, adequately financed with an expanding skilled and relatively inexpensive work force available to them.

Probably the most disturbing of all the concerns is the fact that though there are plenty of instances strewn across the gamut of our industry of notable failures from which lessons can be drawn, it is self evident that in general very few of these "events" have had any effect on the way that business has continued to be conducted and one way and another we are prone to repeat these same mistakes over and over again. The same cannot be said of these emerging economies. They have studied these past problems and have been punctilious in their research and they will have ensured that they have learned from them. That is not to say that mistakes and misjudgments will not occur because they will, but they are likely to be new errors which the flexibility of their systems will allow to be rectified quickly. Probably the major factor in their favour is the willingness to admit that a problem has occurred, that means the problem is already 50% resolved by its early recognition.

So why should this be a matter of concern, and what can the possible effects be? The form of conglomerates that are being discussed lend themselves wonderfully to "Total Vertical Integration" which is the prerogative of large organisations where the benefits of scale allow the synergy available from activities of "Sister" companies to be fully exploited. Whilst this has not generally been the case in most "older" countries and companies these emerging giants are not shackled with the "them" and "us" syndrome which has tended to be the norm in European based companies.

This is not conjecture. Already in Australia which as mentioned earlier, with its geographical isolation make a great test market, it has already started to occur. Three Asian companies are setting up their own direct distribution system, this of course has one or two other requisites apart from adequate finance and manpower, namely product range. Once again, the production machinery available now allows any manufacturer to make just about any product from bi-cottura wall tiles through to polished fully vitrified tiles. No longer is a company a "Wall tile" or a "Floor tile" manufacturer everyone has the capability to do anything, and these Groups are doing just this.

One thing is for certain. When this trial period is over, and it will be successful because there is no reason why it should not be, the next step will be to make the move into the American and finally, European markets. Any doubts whether this will work should be dispelled by the successes recorded by the motor vehicle companies of

Hyundai, Daewoo and others who have carved out for themselves significant market share in those countries which have been chosen for development, even in the environment of subsidised local manufacturers and restrictive tariffs. The effects will be felt throughout the entire industry from Manufacturers to Distributors and will bring about, one way or the other, restructuring of the entire market place. The smaller family run distribution outlets which have developed across the world will be in the greatest danger and face a very uncertain future, which will also impact on the "Chains" and "Sheds".

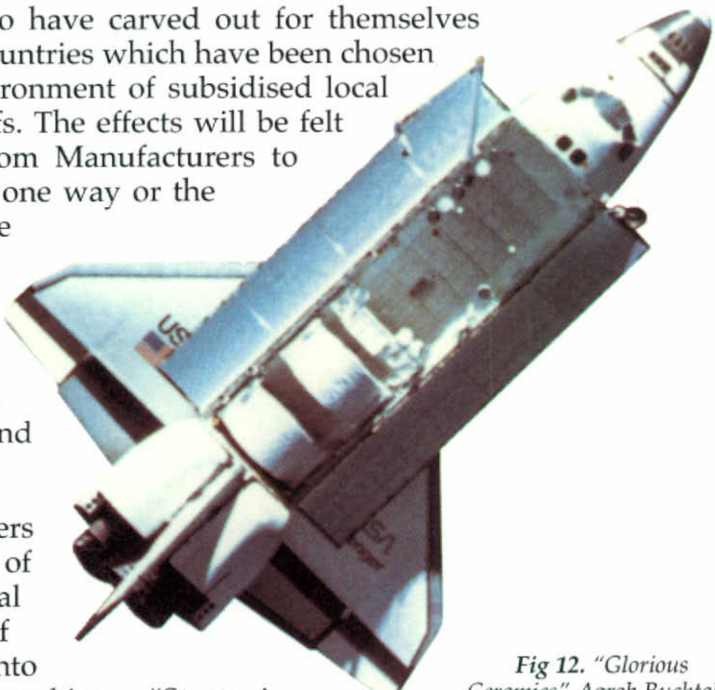

*Fig 12. "Glorious Ceramics" Agrob Buchtal Keramik - Schwarzenfeld Germany.*

For Ceramic tile manufacturers the prospects can lie in a number of directions, following the "Vertical integration" path which some will of necessity follow, branching out into other speciality markets or seeking "Strategic partnerships". It is my belief that this latter option will be the one for the "real" Ceramic tile manufacturers who will seek out in each market a number of discrete distribution partners. These can be numerous individual distributors, buying / franchise groups or a combination of both. These distributors will offer to the public complete ranges of products by dealing with selected manufacturers with whom they will agree to work on mutually beneficial product developments. They will be in direct competition with the "Vertically integrated" Distributors and will stand or fall on their ability to offer expert and pragmatic advice based on their ability to source from specialty manufacturers to suit the clients need.

*Fig. 13. "Glorious Ceramics" Agrob Buchtal Keramik - Schwarzenfeld Germany.*

What does the future hold? We have already sent ceramics into outer space with the "Shuttles" (Fig. 12). Well more than ever the aspect of Quality will take a greater meaning. To withstand the onslaught of these new market forces we must be innovative, markets are there to be created, certainly external cladding lends itself to development of quality systems which will serve to enhance and protect buildings all over the world from the increasingly damaging effects of pollution which it seems is a problem that the whole world is unable to come to grips with. We must encourage Governments, Architects, Designers and Developers to appreciate and use the major benefits that using the "Natural" product that is "Ceramic" in ever more varied ways.

Ceramics as well as being the historical product which helped to create the present, is also the product of the future; Thermo Ceramics, Chemo Ceramics, Magneto Ceramics, Ceramic engines all these things are a reality but we must not let it end with that, the possibilities are unlimited. Despite all the problems which we shall all be facing from within and without what we have to offer is unrivalled in so many ways and will prove of long term benefit to society in general. We must continue to ensure that we do not relax and "rest on our laurels" but pioneer new markets and find new uses for Quality ceramic tiles. The possibilities are out there, lets make the dreams of some become the reality of others.