Combination of Ceramic and Mixed Media in Artistic Forms

Mutlu Baskaya

Scientific research carried out throughout the 20th Century and today provides very significant inputs to ceramic materials and their production, which have been made for millenniums. The advance of ceramic technology has also expanded the working area of ceramicists. The development of high temperature firing technologies on the other hand have allowed new and extraordinary materials to appear. Applications, such as computer chips, rockets, jet technologies, spaceships, refractories, ceramic submarines, flexible light ceramics and under water shelters, may be included in this category.

Designers and engineers have considered the needs of humans when designing such high technology ceramic ware. Today, composite materials have started to be produced, further expanding the formation capability of ceramic by heat treatment of clay. Composite materials are engineered materials made from two or more constitutent materials with significantly different physical or chemical properties and which remain separate and distinct on a macroscopic level within the finished structure. Its types are Polymer Composites, Metal Composites and Ceramic Composites. One of the most widely used composites today is concrete, which is comprised of cement, sand, and steel bars. Here, the matrix is sand and cement. The load-bearing or reinforcing element is the rebar. The oldest composite is mud and straw, which is included in the tradition of many cultures in the world and used in traditional home building, mostly in villages. Use of this oldest building material is often found in countries such as Turkey, Yemen and Algeria.

Composite materials have three main elements: Matrix, Reinforcement, Additives.

M.Baskaya,"my chimney",2002

M.Baskaya,"oppression",2007

M.Baskaya,"can we change the roles",2009

Production of composite materials has been carried out for a long time in my country of Turkey and globally. However, today, scientists are forming nano composite ceramics or materials by analyzing biological molecules under an electron microscope and, being inspired by the structure

of these organisms just as an artist would be. One of these scientists, Prof. Dr. Ilhan Aksay, states that nano-size activities started in the 1980s after electron microscopes came into use. In the beginning the most common reactionwas "This cannot be.""You cannot go further imitating biology. Biological molecules are restricted to functioning in specific temperature ranges. You cannot make
useful materials. They only work at low temperatures. Materials you produce imitating biology will be limited to these temperature ranges." Yet, our aim is not just to imitate biology, it is to produce different materials under the inspiration of biology. For example, we might produce materials which may be used in high temperatures. A group of scientists again in the United States are pursuing their work inspired by mother of pearl. Nicholas Kotov and his colleagues are developing materials of strength and flexibility close to that of mother of pearl. The color-changing ceramic on the outside surface of the shell of the red abalone which is a marine organism, is two times stronger than the high-technology ceramics produced today. The shell known as mother of pearl is comprised of the wavy layers of calcium carbonate in a special crystal form called aragonite together with the lustrin, a protein. The union of hard and elastic layers gives mother of pearl a significant strength and power through the shifting of layers under pressure. The structure of calcium-carbonate bricks is balanced at the molecular level, preventing the formation and progress of cracks. The platform of options, expanding due to technological advances, triggers the power of the imagination of the artist or designer. Many materials which can inspire the artist are being produced in line with the opportunities afforded by technology. The composite-material technologies are advancing rapidly today with new products launched almost everyday. Thanks to the physical and chemical benefits they afford, the ceramic composites used in many areas, especially for mitigating the load of structures, are examples that best reflect today's technology. The traditional characteristic of the ceramic is undergoing change with the aid of new production technologies. For example, Kalesinterflex, which is one of the most interesting building-industry products of recent years, reflects the level reached in world ceramic production. This flexible material is very light, very slender and of great magnitude. Ceramic and glass fiber support have been used together with both. Should not Kalesinterflex, which is a product of engineering and design, be a source of inspiration for an artist in his work?

M.Baskaya,"my chimney",2002

M.Baskaya,"untitled",detailed,2004

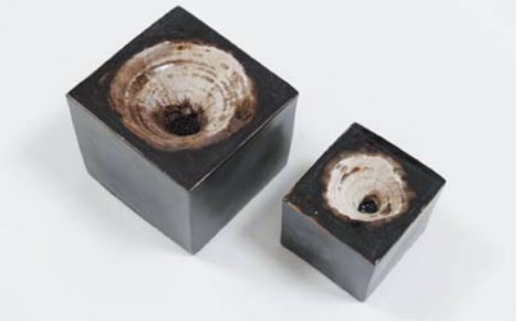
Forms or installations comprised of these materials may be visualized even at this instant. It is observed that certain ceramicists have built these types of works since the 1970s in Europe, too. For example, British fine-artist Gillian Lowndes has started to develop mixed-media sculptures by embedding materials such as forks, spoons, various wires, fiberglass, tin and found objects in slip. The tendency of ceramic fine artists to use different materials together with clay or ceramic is rather new to our country compared to Europe. Turkish artists, who used these types of materials either previously or recently, are Prof.Güng.r Güner, Bingül Basarir, Prof.

Beril An.lanmert, Tüzüm Kizilcan, Prof. Hamiye Colakoglu and Prof. Zehra Cobanli. Prof. Güng.r Güner generally uses paper as an additive in clay when creating her forms. Another material she frequently uses is the transparent water packet. Bingül Basarir's works from previous periods are pouced from the union of coal slag and clay. In her other works, she has placed colored glass under glass layers, joining them in a ceramic kiln. Beril An.lanmert emphasizes the contrast of the two materials using felts she shaped beside he ceramic. Tüzüm Kizilcan, on the other hand, has used wire mesh in his ceramics for awhile, burdening this material with an auxiliary function like a suspension apparatus. In his recent works, he creates antique door-lock forms made of ceramic placed on metal sheets or on paper clay plates. Hamiye Colakoglu, in her forms in monumental style, usually used porcelain bars placed on metal structures. The visual and load- bearing function of this metal structure is emphasized by a plastic language in form. Zehra Cobanli, who uses materials like cast metal and colored photographic prints with her ceramics, is also in this list. The number of names to be included in this group of the young generation of ceramicists is increasing all the time. The tendency of contemporary ceramic fine artists or designers to increasingly use mixed media in addition to ceramic or clay may also be an indication that they can get the same inspiration from these materials as from nature. Almost-flying forms created by Heringa and Martin Van Karlsbeek, using resin, steel, cloth and clay, are examples of this subject. It is possible to develop the expressive capabilities of ceramic material by imagining the post-kiln look of compositions created with clay. Dutch designer Marcel Wanders, most probably using his intuitive knowledge, was able to see the results of the joint firing of two materials in the kiln because he knows the characterestics of these two materials so well. The two materials he used are sponge and porcelain clay. As he states in his website, first he dips natural sea sponge into liquid porcelain clay, removing it when the sponge is saturated with clay. When fired after drying, the sponge disappeared at high temperature with a form in sponge texture remaining. (Picture1)

Picture 1. Marcel Wanders,"sponge vase"1997 Picture Photo: Maarten Van Hooten

Picture 2. Marcel Wanders,"foam bowl"1997 Photo: Maarten Van Hooten

When designing a bottle form, sea sponge has become an inspiring material for Marcel Wanders. When designing a plate, artificial sponge has become a material inspiring the designer. (Picture 2)



M.Baskaya," what we could purify V", 2009

The source of inspiration for British fine artist David Binns shows a diversity ranging from architectural and engineering forms to geological shapes and rock formations. Binns creates his original ceramic works in a style close to the logic of composite materials. He states that these works are developed from research in connection with the addition of granular materials gathered from three different sources into the plastic clay body. These three different sources are grog, granular refractories and found materials like granite powder and beach sand. According to the website where Binns describes his work process, once he decides on which aggregate materials will be used in a given piece, they are wedged into the base clay body. The making of pieces involves press molding the clay into plaster or wooden molds. Following firing to around 1200℃, all pieces are finished through processes of grinding and polishing. Other works by Binns include kiln casting of aggregate materials combined with glass-forming materials. The mold containing the mix is then placed in a kiln and fired to around 1200℃. The glass materials, when heated melt and flow between the particles of aggregate material. Upon cooling, the glass solidifies, giving a solid matrix of aggregate and glass material. Following firing, the cast is broken out of the mold, and then finished through processes of cutting, grinding and polishing. (Picture 3)
The originality of Binns' shaping technique is interesting, as is much of his work. Because these works are formed through post-firing intervention, the forms also bear the characteristics given by the tool used during the process. Hence, it can be said that his forms comprise sharper-lined geometrical forms and plain surfaces.
Use of mixed media is often observed in Chad Curtis' works, too, with searches for expression recognizing no boundaries of contemporary ceramic art. In the installation named Boppie, made by the artist in 2002, the very colorful pieces, invite the observer to touch them. The material affording this motion is the small wheels mounted on colored ceramic pieces(Picture 4).

Picture3. David Binns,"Square Pierced Form"

Picture4. Chad Curtis,"boppies", 2002

Chad Curtis describes this work as follows."Boppies are pillow-like things for babies. The form is childlike and toy-like. It supports interaction of the viewer with the work. Actually Boppy looks like my work in terms of shape. At the same time, Boppy is a baby vehicle just as I wish my works to be full of joy and childlike. The form from which I cast the porcelain is a plastic toilet-seat raiser for the old and the physically disabled. This means that a portion of the idea was to transform a toilet seat into something people could really touch. At the same time, it addressed everyone from the youngest to the oldest, and this added some satire to the work. The color was bright and lively to ensure that all these wishes could be addressed."
Italian ceramicist Alfredeo Gioventu has been inspired by nature almost uniting nature with his ceramics. Celadon, gres and porcelain forms he created, inspir generally by rock forms over the years, are complemented by tree branches (Picture 5). Materials he frequently used with

ceramics are real stones, water and tree branches. He has transformed the ceramics he created with great mastery into a poetic depiction by using them together with these materials. The high level of technical knowledge Gioventu has is in parallel with the aesthetic research reflected onto his forms.
For Mezahir Avsar, who frequently uses side materials such as tree branches and twine together with ceramic forms, natural and artificial objects are among sources of inspiration (Picture 6). It is believed that these materials set the shapes of some of the ceramic works by the artist. It is a common phenomenon today that a scientist is inspired by organisms or nature just as an artist is or that the artist becomes a researcher like a scientist and is inspired by newly-produced materials.
Starting from this idea, my own original applications have been comprised of the combination of the ceramic and mixed media both inside and outside the kiln, using the technology in line with my own wishes. Some of the created forms were fired in the kiln together with various organic and inorganic materials. Firing temperatures were set depending on the characteristics of the materials used. For example, different metals melt at different temperatures, i.e., silver at 961℃, copper at 1083℃, aluminum at 658℃ and iron at 1526℃. According to the desired visual effect, the melting temperatures of these metals are utilized for ceramic forms. The impact of each technique on the combination of mixed media and clay was observed, making use of raku, sagar, salt firing, wood firing, paper kiln firing and other primitive firing techniques. Materials used together with ceramics outside of the kiln are objects or materials such as scraps, water, ribbons, wood, metals, rollers and found items. These objects, either compiled by or designed by me, were installed in such a way as to create a composition with the ceramic form. In my work titled"Gift", wire mesh, clay and glaze were used together. However, it was installed outside the kiln, subsequently using materials like metal stands and satin black ribbons. This work questions the gift in an ironic manner. (Picture 8)

Picture 5. Alfredo Gioventu, "S.Sebastiano", 2007

Picture 6. Alfredo Gioventu, "I love you", 2006

Picture 8. Mutlu Baskaya,"Gift", 1996

Basically Egyptian paste and paperclay were fired together with other materials, especially wire mesh. Egyptian pastes are small vessels and beads produced during the first Egyptian dynasty and almost only this function survives today.
Egyptian paste contains solvents,such as sodium bicarbonate on the surface, which are soluble in water. During firing, solvents combining with silica and alumina in the clay, create a fine layer of glaze on the surface. Because of this chemical property, Egyptian paste, which may be used as both clay and glaze, is not a very plastic material. Hence it is difficult to shape by hand. Therefore, many ceramicists use the press-shaping technique or cast-shaping method. In my works, since either wire mesh or strainer assumes the load bearing duty, Egyptian paste holds onto wire easily.(Picture 9, 10) Hence, the traditional bead dimension is surpassed, making it possible to reach the desired size.

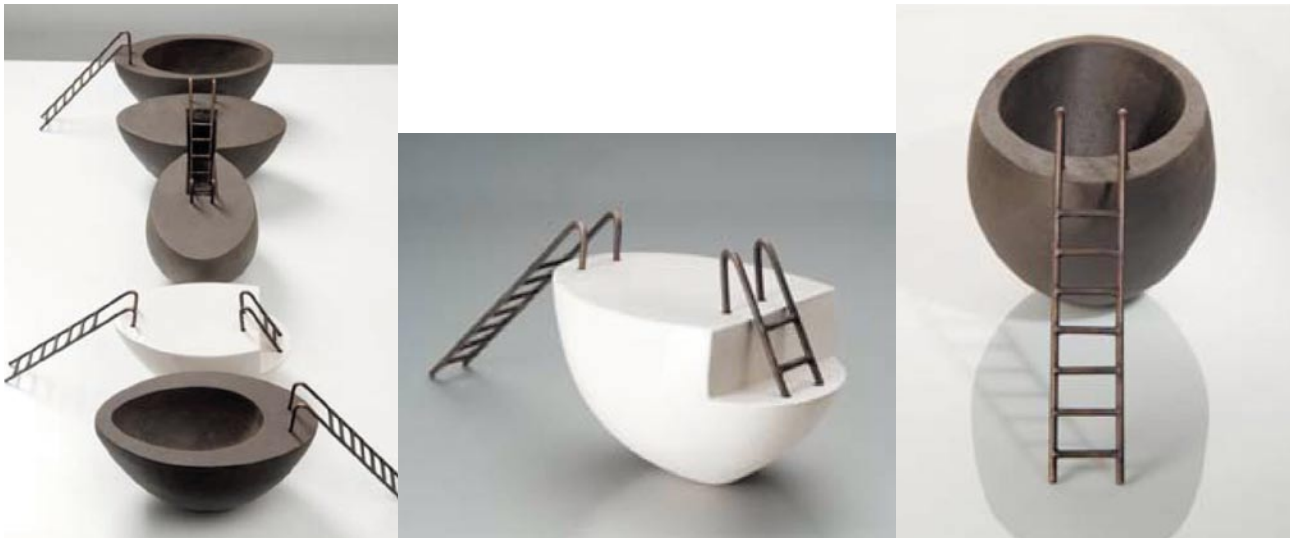
Picture 9; M.Baskaya,"mind strainer", 2001 Picture 10;Detail from picture 9,wire mesh and Egyptian paste,Raku

Secondary materials or objects in the compositions are sometimes used with the earth, they can change the opinion and perception of the viewer outside the works' daily functions. As examples, we can cite lighters, basin drains or tea strainers, metal rollers, led, lens or ladders.
When a tea strainer is fired and displayed together with Egyptian paste or clay, it loses its function. Conceptually, the basin drain refers to media contamination and the strainer to reasoning. (Pictures 11, 12) The metal roller and th ladder used together with the ceramic are each a symbol, with the roller representing social oppression and the ladder representing hope. (Picture 13)

Picture 11; M.Baskaya,"what we could purify I ", 2004 Picture 12;M.Baskaya," what we could purify III-IV, 2006, 2009

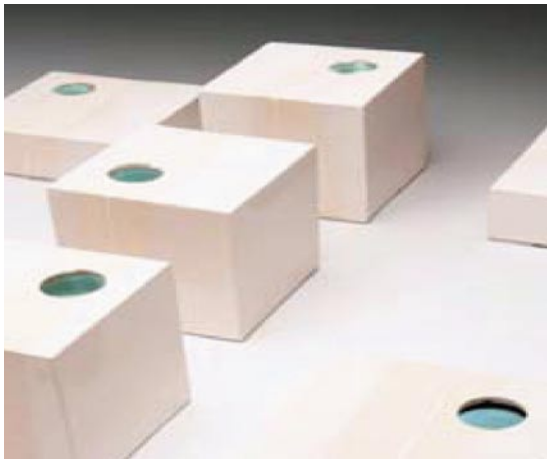
Picture 12;M.Baskaya,"what we could purify IV-detailed", 2009

With optimistic thought, hope and small treams can replace the unhappiness created by the daily policies imposed upon people. In the form created with this starting point, the ladder is a symbol of hope. When we are pessimistic, the ladder is symbolic of going from light to darkness. . Where does the ladder go? It is not clear, and these uncertain situations could lead the person to hopelessness.In the"Hope Series" some forms are "empties", some are "fulls". This breaksthe monotony. Exhibiting the forms on a reflecting surface makes the visual effect stronger.



Picture 13. M.Baskaya,"hope", 2009

"Look and see" is a conceptual work, and the lens is a medium which makes the conceptual meaning stronger. The topic is that we need to examine in detail the subjects which we know are important, but we do not care. In a closed form there is a broken tea strainer. There is a lighting element, LED, because, when we look at the lens, we need a light to see the object inside. The form is not very attractive from the otside, but it motivates the spectator to look at it one more time.(Pictures 14., 15.)



Picture 14. M.Baskaya,"look and see", 2009

Picture15. M.Baskaya,"look and see",detailed,2009

My experimental-style approaches started with intuitive knowledge in the process of capturing a contemporary language of expression and, making use of traditional techniques. These apporoaches, assist me in discovering the contrasts and complementary aspects the ceramic and mixed media. Sometimes, random relationships and out-of-the-ordinary combination of different materials are observed in my forms. For example, the material designed to be together with ceramic before firing goes into a reaction with ceramic according to the nature of the material after firing and the form changes as planned. Sometimes, the acquired experience and knowledge may not be adequate for the same form to come out of the kiln each time. A change beyond the designed form is observed and this coincidental situation is a source of inspiration for new works.