134

UNIVERSAL COLOURS

THE MAGAZINE FOR PROFESSIONAL MIGRANT ARTISTS

3D print

Sometimes I find
a place to sleep

But I never dream

UNIVERSAL COLOURS

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theme: 3D print

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editorial

ISSUE 4 2013

Cut-off is the word that we all afraid of, if it is a cut of neck, cut-off a relationship or the cut-off the mail member as we call it; this cut might be happened to anyone of us, or to anything that we do not expect, but when you know it, oh la la.

Yesterday I was with a friend of mine, talking about many things from here to there, from childhood to the fifties, and what happened to him while he was little boy. He told me a story of a cut-off and I suppose we all now know which cut-off I am talking about.

He said that the most painful matter ever happened to him in his whole life. And since I belong to the same society, I told him that; believe me I forgot it long time ago. It was just the cut-off operation at the ministry, ops, did I say ministry, I am sorry I meant hospital.

He insist that he does not forget that face of the doctor he made the operation to him, it is still living with him as if it happened now, not 50 years ago. I still see his eyes opened on me; I, who was a very little tiny boy.

Something what no one can forget, his happiness, he was smiling while the knife was in his hand, I was screaming, but no one helped, even my own father was smiling. He was saying all the time, be a man, it is just a little piece of extra meet, the doctor will take it off.

Hey my friend, do not exaggerate; it was just a piece of meet as your father said, but this meet is not for eat. It is extra, he said; what if it happened to you every year, say thanks to God that meat does not grow up all the time.

Anyway he was almost crying while he remembered that little operation, but I changed the subject and I was telling him about some thing else, and he really forgot, but... I did not...

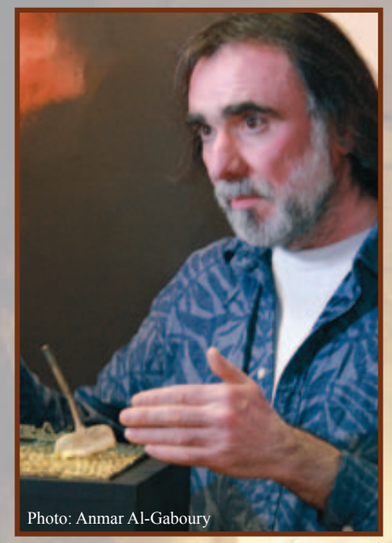


Photo: Anmar Al-Gaboury

I told him all cut-offs happened to my life. I was almost executed, nearly cut-off my head, I was in a prison with my food cut-off, I was for four years living in Pakistan cut-off of my relationship with women, and I was and I was...

But when I told him about the last cut. He opened his eyes wide and was shouting; this is not right, it is cutting your food again. Oh, come on we are living the welfare country and no one can die of hanger.

At this stage he was really crying, and I was laughing at him, he stopped and told me, don't you have sense, why you keep quite; you must go and scream to them it is your only resource of living, and you really doing a great job.

I told him, come on, we are just making this magazine 6 times a year, and we participate an some exhibitions, yes we distribute the magazine around the world but that is not a big matter, the cut-off is what they give... ops sorry the money what the gave is OK, and as a France philosopher said:

If you are not OK and I am not OK, it is OK.

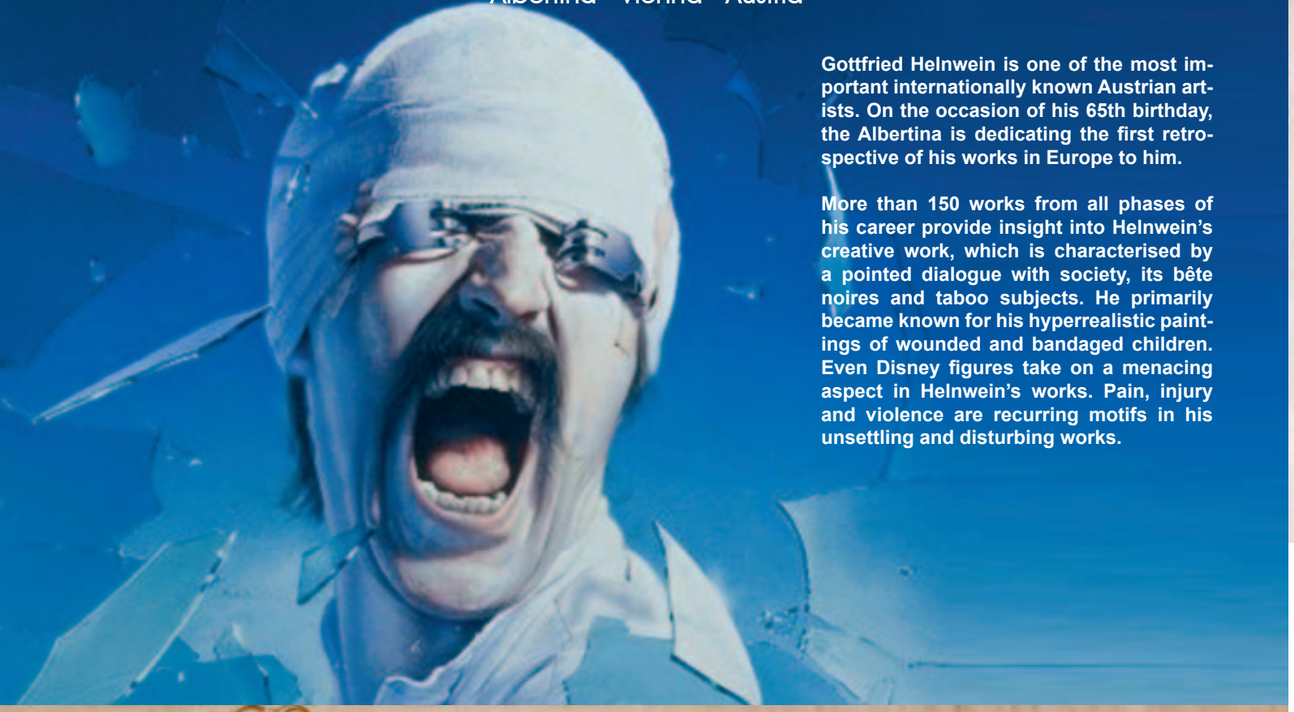
Amir Khatib

ArtNews

If your art gallery or association has some art news or an event it wishes to promote in Universal Colours, then please send the details to info@eu-man.org

Retrospective

Gottfried Helnwein
Till 13 October 2013
Albertina - Vienna - Austria



Gottfried Helnwein is one of the most important internationally known Austrian artists. On the occasion of his 65th birthday, the Albertina is dedicating the first retrospective of his works in Europe to him.

More than 150 works from all phases of his career provide insight into Helnwein's creative work, which is characterised by a pointed dialogue with society, its bête noires and taboo subjects. He primarily became known for his hyperrealistic paintings of wounded and bandaged children. Even Disney figures take on a menacing aspect in Helnwein's works. Pain, injury and violence are recurring motifs in his unsettling and disturbing works.

The Seicento in Bologna

June 20 - September 9, 2013
Musée du Louvre

To mark the publication of the catalogue of its Bolognese drawings, the Musée du Louvre is presenting a selection of works by artists active in Bologna and the Emilia region during the Seicento.

A follow-up to the Louvre's 2004 catalogue of its drawings by Ludovico, Agostino and Annibale Carracci, this second volume brings together the works of such contemporaries of the Carracci as Bartolomeo Cesi and Alessandro Tiarini. It covers artists born before 1660 and concludes with the drawings of Burrini.

In all forty-eight artists are represented, some of whom—Lanfranco, Algardi, and Grimaldi, for instance—spent most of their careers away from Bologna, but were so marked by the teaching and the example of the Carracci that their graphic work is authentically Bolognese. The quality and quantity of the Louvre's Bolognese collection is conclusive proof of the French partiality, in the seventeenth century, for the work of the Carracci—most notably Annibale—whose influence on Classicism in France was primordial.

Jan Křížek Paris Art Scene in the 1950s

Till 29 September 2013
National Gallery Prague

The retrospective exhibition presents in detail the work of sculptor Jan Křížek, a highly original Czech artist who settled in France in the second half of the 20th century. Although primarily a sculptor, he also left behind a large body of drawing and graphic work. The exhibition traces the artist's life and work and places his oeuvre in the international context of post-war art. During his sojourn in Paris beginning in 1947, Křížek was involved in the local art community and met with prominent artists. He was one of the fi rst to exhibit in the newly founded Foyer de l'art brut of Jean Dubuffet and joined the circle of artists around Charles Estienne, a leading theoretician of post-war abstraction and adherent of tachism. He participated in meetings of the surrealist group and corresponded with André Breton about automatic drawing.

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Collages Jyrki Heikkinen

28 August – 15 September 2013
Gallery Jangva Studio

In my collage drawings, chaos is structured by the line. Surprising juxtapositions are formed when illustrations, magazine clippings and commercials found in my archive of materials seek their place in a new image. The images continue their life as a part of a new landscape, in which shapelessness forms creatures, people and details that can be found up close.

The combinations are unforeseen and frugal, the work process sporadic and fun – for the viewer this is conveyed as a rhythmic weave composed by the lines, colours and shapes. There is no beginning and no end.

Amir Khatib and **Sattar Fartousi, t**wo EU-MAN members, holding an exhibition in the **Iraqi Cultural Centre** in London from the **4th May to the 20th of September.**

A great number of people honoured the artists attending the opening ceremony.

Worth mentioning Mr. Ali Abdulredha, well known Iraqi critic, who did the official opening and came from Cardiff especially to attend the exhibition.

The Iraqi Cultural Centre is very active and interactive with and for the Iraqi and Arab artists who live within the EU region.

Photos by: Anmar Al-Gaboury

Sixties Quartet Jonas Mekas

Tilll 29 September 2013
KIASMA
Helsinki - Finland

In the Kontti gallery, Kiasma presents a selection of Jonas Mekas' films from the 1970s through to the 1990s.

Born in Lithuania, Mekas fled from his native land in 1944 and finally settled in the United States. His circle of friends included writers, musicians and artists, such as Andy Warhol, Nico, Allen Ginsberg, Yoko Ono, John Lennon and Salvador Dalí, all of whom can also glimpsed in his films.

The exhibition provides historical and thematic background information to media art exhibitions shown in Kiasma in 2013.

POP ART Design

29 June - 22 September 2013
Moderna Museet - Stockholm - Sweden

The time of birth for the term "pop" in relation to art can be specified almost to the day. "Pop Art" was the controversial subject of a symposium held on 13 December, 1962, at the Museum of Modern Art in New York. Artists in the UK and the USA had been challenging established traditions and hierarchical structures ever since the 1950s, with a new aesthetics, culled from the life and people around them, from mass and popular culture.

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GLITCH at RUA RED

GLITCH at RUA RED brings together some of Ireland and Europe's leading media and technology artists, theorists, researchers, curators and artist groups to explore emerging and established contemporary cultural and critical issues that arise from artists intersection and investigations with digital technology.

Run Computer, Run takes place during GLITCH from 25 May - 13 July at Rua Red in Dublin, Ireland.

GLITCH & Run Computer, Run is an exploration of critical and experimental approaches to curating new media art.

GLITCH & Run Computer, Run comprises of a series of interrelated exhibitions, a publication and symposium. This research takes place at CRUMB at the University of Sunderland and is funded by the AHRC.

GLITCH at RUA RED is an annual festival that brings together leading media and technology artists, curators, researchers, and artist groups with audiences to explore emerging and established contemporary cultural and critical issues that arise from artists' intersection and investigations with digital technology. GLITCH was founded in 2011 and has gone from strength to strength ever since.

This year GLITCH & Run Computer, Run focus on the current economic, political and cultural factors that are shaping the Internet and the artistic responses to them through a series of exhibitions, seminars and a publication. The research will discuss and explore how the practice of the digital artist is in transition, not only with the growth of digital technologies, but also through the offline factors that continue to affect how the Internet as a creative platform is developed. Run Computer, Run takes place during GLITCH festival at RUA RED from May 24 – July 13.

'Something happening inside the browser', AR Widget for Layer, Gif animation, 1 min. 2013. This artwork is a part of an interactive video project (for YouTube) not yet finished: "The artist journey".

'Something happening inside the browser' shows an Augmented Reality widget containing an animated GIF where the artist makes a sort of psychedelic performance following the frenetic movement of the lights across the browser. The performance shows an exiled, timorous, nervous person waiting and moving - lost in a paradox situation where is trapped on the borderline of a real-scale-surreal-dimension.

The clichéd figure becoming even whiter disappears and merges with the atmosphere, and the internet space becomes the extension in all directions by our intuitions of the real world in which material bodies are placed. The artist's movements try to expand the possibilities of perception inside the browser that seems to be the pure shape of intuition…

Widget (at the festival “Run Computer Run”, Rua Red, Dublin) here: http://run-computerrun.com/?page_id=8313

RUA RED is a dynamic home for the creation and enjoyment of the arts. Along with partner organisations and tenants, the centre hosts a programme of events aimed at all members of the community: locally, nationally and internationally. Overlooking the Tallaght Luas Stop, RUA RED is committed to providing a diverse, high quality and innovative arts programme. Combined under one roof, this multi-purpose arts resource aims to connect and communicate with you by being

a unique driver for wide public access to the arts.
RUA RED is run by South Dublin Arts Centre Company who, along with managing the spaces, has an ambitious programme of arts – predominantly centred around the galleries – that is beginning to thrive and attract attention and respect from across Ireland.

Curator of the exhibition is Nora O Murchú who is a curator and designer. She is currently a post-doctoral researcher at CRUMB, where her research explores experimental approaches to curating new media art and examines current economic, political and cultural factors that are shaping networked culture, and the artistic responses to them.

She received her PhD in 2012 from the University of Limerick. Her research examined online practices of open source users and provides an in-depth analysis of this practice for an Interaction Design context. In addition she suggests curation as a research method for Interactions designers, and provides a detailed account of how this methodology can foster creative innovation for end-users to work as designers in the context of their everyday lives.

She has worked as a research associate for the Interaction Design Centre at the University of Limerick, and the Interaction Research Studio at Goldsmiths , where she has consulted on a broad range of topics, including open-ended design methods, health informatics, and web platforms. She was a researcher on the Tidy Street project, an EPSRC project between the Open University and Goldsmiths that examined the shared energy practices of a small community in Brighton, England.

She is the founder and creative director of Tweak – a digital art and electronic music festival that took place in Ireland from 2008 – 2010. She has produced exhibitions and events (www.openhere.data.ie) for Trinity College Dublin and has curated the work of Golan Levin, Casey Reas, FIELD, Anthony Antonellis, Daniel Miller, Gregory Chatonsky, Tristan Perich, and Benjamin Gaulon. ■

Artist Dazzles with 3D-Printed Paintings

Ioan Florea

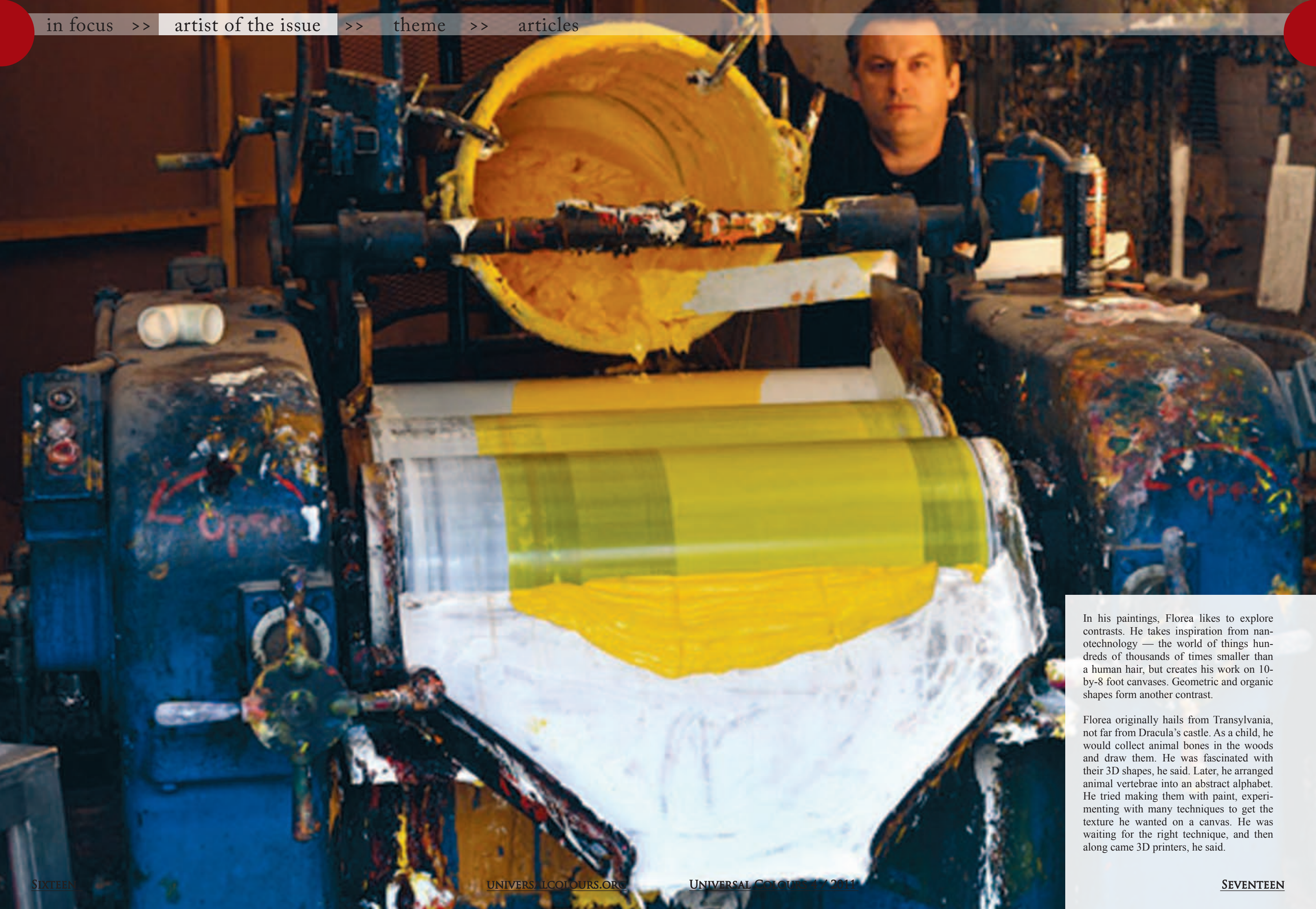
By **Tanya Lewis**

3D printing is turning up in all sorts of places these days, and recently, it's been gaining traction in the art world, with one artist using the printers to create giant paintings with loads of texture.

"My paintings address both the visual perception and the tactile," said Ioan Florea, whose artwork is currently on display in Indiana. When people see Florea's paintings, their first reaction is to get close and touch them, he added.

Florea first uses 3D printing to build prototypes for the larger shapes in his paintings. To create the scaled-up versions of these 3D shapes, which are enlarged 20 to 30 times, he cures the resins using heat (by contrast, 3D printing often involves curing resins using ultraviolet light). The resin and pigment are like the paint, and all the shapes are embedded in it, Florea said. Then, he uses transfer techniques to attach the shapes to a canvas.

Because his paintings are big, Florea uses ultralight materials. "With regular materials, one of my paintings would be 600 pounds, but I try to keep them to 100 pounds," Florea told LiveScience.



In his paintings, Florea likes to explore contrasts. He takes inspiration from nanotechnology — the world of things hundreds of thousands of times smaller than a human hair, but creates his work on 10-by-8 foot canvases. Geometric and organic shapes form another contrast.

Florea originally hails from Transylvania, not far from Dracula's castle. As a child, he would collect animal bones in the woods and draw them. He was fascinated with their 3D shapes, he said. Later, he arranged animal vertebrae into an abstract alphabet. He tried making them with paint, experimenting with many techniques to get the texture he wanted on a canvas. He was waiting for the right technique, and then along came 3D printers, he said.

Florea's paintings are being featured in an exhibition at the South Bend Museum of Art in Indiana from now until May 2015, and at Southern Illinois University in Carbondale in September.

Florea has also developed a fast-drying oil paint, which he said is considered one of the best worldwide. Artists developed their own paints during the Renaissance, Florea said, but later during the Industrial Revolution paint was developed for buildings, cars and other purposes.

"Today there are thousands of pigments and materials," Florea said, adding that he thinks everything can be used in art. In that way, art truly does reflect society, he said. ■

Art & Technology

By: **Amir Khatib**

The title of this article, was a topic that we were studding at the Sibelius Academy the year 1997, including a lot of thing was “art & Technology” I would imagine so far, I would not imagine that technology goes beyond my thinking, but our teacher Mr Denis Rich was asking a question of the development of the high touch as they say.

Mr Denis was a professor at Chicago University, exactly Colombia University, I mean he was inside the development, or at least we were looking at the USA as a centre of development, he said: I do not know where this development of technology will take us.

He may not imagine that there is something in our world called 3D printing, this technology is very high right now and it is the last what the science reached, of course this was not our of the help of art, without the art they could not go further.

Yes science has no limit, but I repeat the question of Denis Rich “where this development of technology taking us”

As I see that it take us to the right way of living, the right way of knowing life, God, death and every details in our existence, it is leading to nihilism as the existentialism were believing, or at least what I was believing too.

When the cell phone came and precisely the smart phone came to the world, we all said, what ever you want is there, but not to materialise life, not to realise the we can do it on some material as well, now when the 3D printing came to our existence, we the artists say” oh great”.

It is a wonderful that artists can take a use of such technology, me my self was imagining some thing close to that, I was imagining a computer programme which makes a 3D profile of a portrait; that was very poor imagination, because I could not imagine the 3D printing at all.

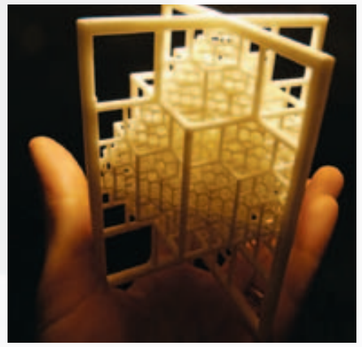
Now when we choice the theme of this issue, I read a lot and have connection to some 3D printing and have some contact with a lot of printing industries and companies, as I receive almost every day a lot of material from the, and I have to read it or g through it I saw a really wonderful world, my spirit singing with this world.

Yes it is true that they can print an unborn baby face, they can make a sculptures of many wonderful ideas as if they want to say hey this is the world between your hands ■

Dimensional inspirations

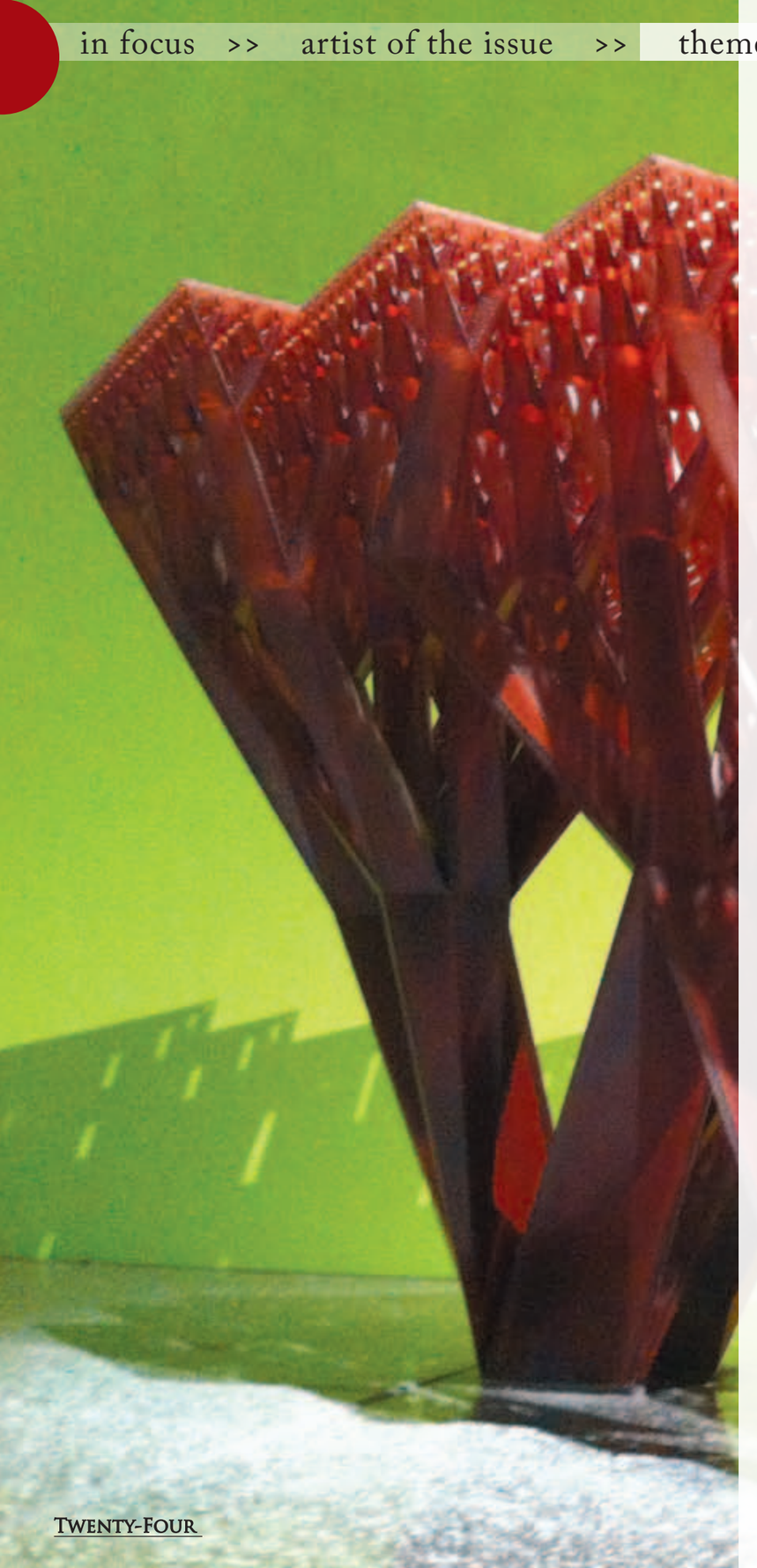
By: **Thanos Kalamidas**

FROM THE VERY BEGINNING of my contributions for the Universal Colours magazine I keep talking about this tool called technology and especially computers. And I actually emphasize often that we should deal with this tool the same way we deal with the brush. We use the tool and we never leave the tool to limit our inspiration and thoughts.

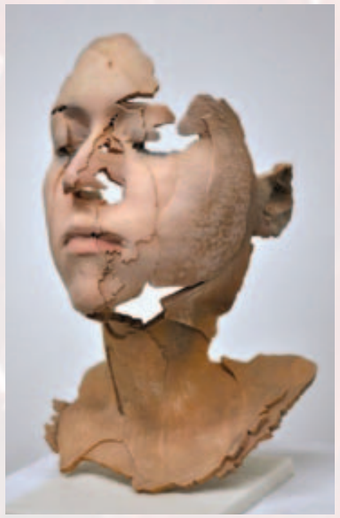


Suddenly print-art started taking her place among art collections and computers escaped their limitation into music and video manipulation. But still everything was moving in two dimensions. And here I'm talking about the realistic, scientific acceptable dimension and not the ones inspiration gives. And then came the 3D printer to take us boldly where nobody had been before. In a far far dimension!

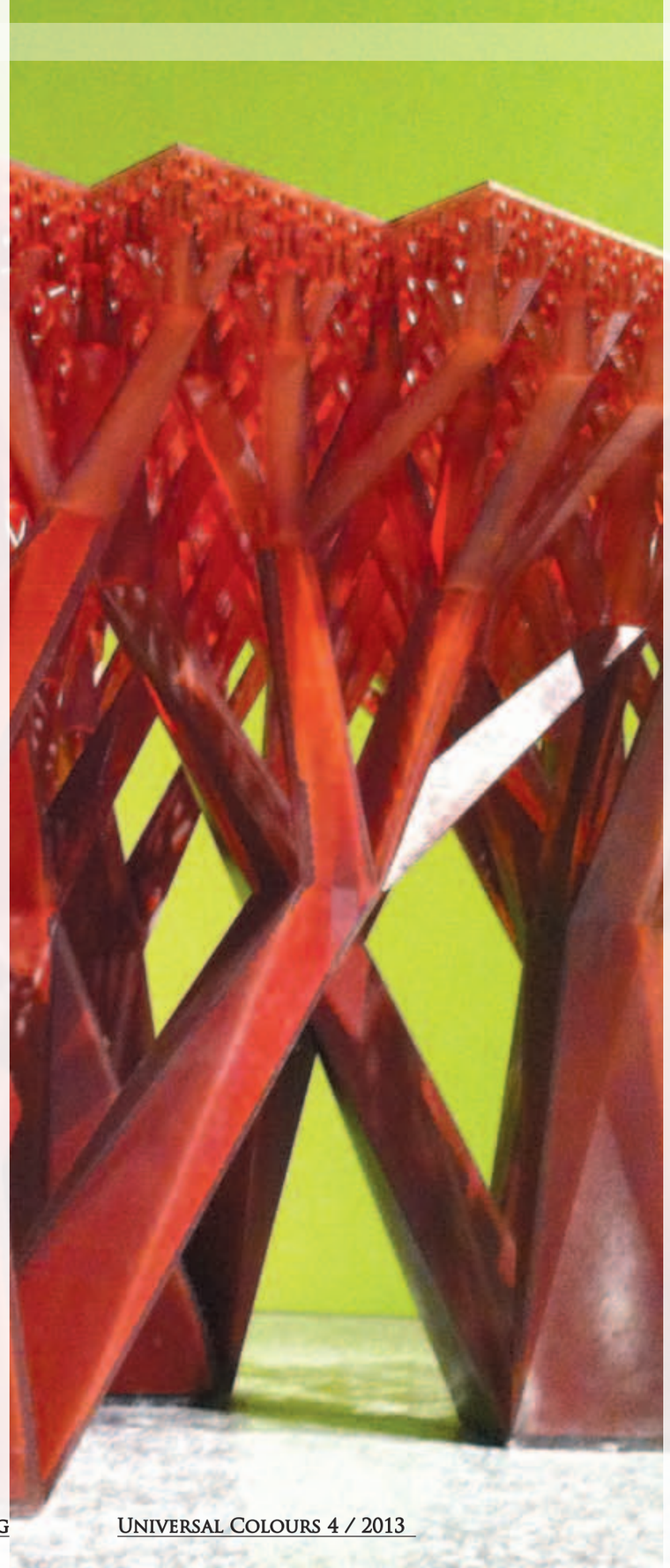
Truth said the 3D print technology is far fro perfect. At the moment very primitive, especially compared with how far the rest of the digital technology has gone the last decade, it is frustrating imagine how far you can go with it but still no able to reach it . And still, the future is clear. We are heading to a 3D world. For the technology art lovers the discover open frontiers of extreme opportunities even adding to the classics and their mystic a new dimension and a motivation for more people to see them and perhaps understand them.



And just imagine the difference it will make to architects and visual artists or sculptors. Their work always had been three dimensional, now it can actually take an active part of the creation. Always remember in two things, that 3D print is still very primitive, in its very beginnings and that this is another tool and not the inspiration. Perhaps just like a computer part of the motivation but never an inspiration.



But the question that follows is how the art mainstream will react to is. How the museums and galleries, the curators and the collectors will react to this new tool when at them moment they have been sceptics towards any forms of technology like computers and art software.



The primitive era of the 3D-printers is obvious not only in the 3D products they have print but also to their use. And at least for me it didn't come as a surprise the use of this multidimensional printer to produce first a bicycle and then a weapon. Actually the print of a pistol was a great disappointment and the same time a verification of humanity's stupidity.

Saying all that the experiments, especially the artistic experiments with the 3D printers have been absolutely impressive. The work of the artist of the month in this issue, Ioan Florea's work, is a breathtaking example and it combines all dimensional expressions giving a very visual morph to the finial installation.

But the most amazing use of the 3D print it will be when art meets science. Anthropologists in cooperation can use the printers with amazing results portraying in the most realistic way humans millennia dead. But imagine what will happen when the scientists manage to interfere with the materials that morph the 3D print creation. It sound like science fiction but as I said in the beginning, a primitive technology but with a long way to go. Imagine using natural textures to produce food, alive tissue to create organs and metal to create a vehicle and tools that demand a great care to mathematic detail.

I'm afraid that this discovery is going to change the world around us especially in combination with the speed computers change us nowadays. ■

3D Scanning & 3D Printing

By: **Shane Taylor**
http://3dprintingindustry.com/2013/06/28/3d-scanning-via-google-glass-and-3d-printing-the-result/

Empires, it could be argued, are built upon successfully incorporating a vision as figurehead. Anyone can become as the figurehead, and one with the figurehead, by assimilating that vision. Be it Roman civility, Han unity, British industry or American liberty, nothing brings the conquered on board better than instilling in them the belief that they have been conquered for their own good, for the good of all… for the vision.

Today's empires, arguably, tend to be of the mind, and of the market, more than of territory or military. Google has established one of the most powerful 'empires' that the world has ever known in little over a decade. With a mission to collect and collate the world's information (something even Hellenic Superman Alexander the Great would not have dared to suggest) and now with a new generation of input tools being deployed to enable it, the realm of the third dimension is an inevitable part of that vision. This article is about that vision being put to a good, educational use, made by Todd Blatt, who has blogged his recent 3D scan of Marcus Aurelius. He, casually, used Google Glass to capture hands-free photograph's at the Walters Art Museum in Baltimore, US. Then the photos were sent to Autodesk's 123D Catch, and assembled into a mesh, and cleaned up in Meshmixer.

"I've scanned over a dozen in the museum so far," says Blatt. "Mostly at the Artbytes Hackathon, but I somehow missed Marcus Aurelius last time. It was literally a stroll-by scan job. I was in and out of the museum in under 10 minutes, and captured a few sculptures. I just walked around the work, repeating, 'Ok glass, take a picture' over and over, 30 shots in total. No real care in aiming the shot. I just looked at it and that's it."

He insists it really was that easy, indeed, invites you to download yourself a copy of the model online at Thingiverse.

What does a portable input device that is this quick and simple to use mean for 3D printing?

The short answer: Not much.

At least, probably not as much as it does for many other 3D rendering applications. The image cleanup is still going to put the majority of possible users off the 3D-photo-to-3D-print process.

But the possible users are not the concern, nor even the potential users, for the observant.

There's something almost mystical about the 3D printing process for most people at this time. Seeing more technology added into the process chain will, for most people, add more complexity, perception wise at least: more technology, more mysticism.

Consumer technology today, is, I would suggest, as driven by mysticism as the religions of yesterday: it is as much the promise of the magic of the experience, as the tangible personable benefit.

It is magic and awe that will spread Glass, and the possibility of capturing an image to be replicated at home. Not functionality. That will arrive after the shock of the new has subsided.

More shock and awe, not necessarily more 'empire' for Google here, at least in the 3D printing sector?

■

How 3D Printing Works

By: **Bob Tita**
http://online.wsj.com/article/SB10001424127887323716304578483062211388072.html#project%3D3DPRINTCHRTprint%26articleTabs%3Darticle

People have traditionally made things—from doorknobs to scalpels to engine cylinders—in one of two ways. They start with a solid block or sheet of metal, wood or other material and cut, stamp, drill or shave it to create a desired shape. Or they use a mold made of metal or sand, pour liquefied plastic or metal into it and let it cool to create a metal casting or molded plastic part.

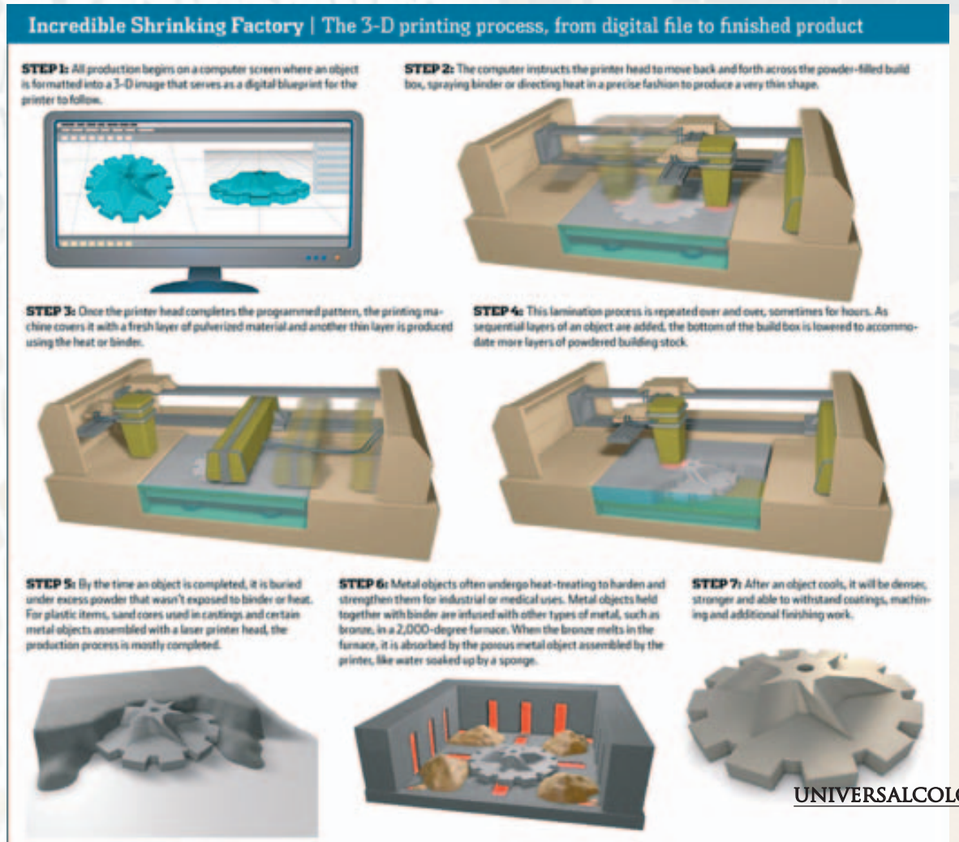
Now for something completely different.

Three-dimensional printing and other forms of what is known as additive manufacturing use neither machining nor molds. They build an object from the bottom up by piling razor-thin layers of material on top of each other until a three-dimensional shape emerges. The computer-guided technologies enables individuals to create objects, particularly prototypes, without a shop full of metal presses, cutting lathes or plastic injection molds.

There are a variety of processes for 3-D printing. Some of the most widely used rely on a printer that makes objects from powdered material. A 3-D printer bears little resemblance to a document printer in an office. It has two major parts: a "build box" that contains a smooth, thin bed of finely ground material such as pulverized stainless steel or powdered plastic; and a printing head. Depending on the type of printer, the head contains either a heat source, such as a laser or an electron beam, that melts the powdered material or jets that spray binder over the powder in a precise pattern. The binder functions as a glue for the material as an object is built.

The world-wide market for 3-D printing, which includes materials, machines and service, totalled $2.2 billion last year, up 29% from 2011, according to industry estimates. But the process has some limitations. For high-volume jobs, 3-D printing can't yet match the speed and efficiency of traditional fabrication methods and machinery. Not all materials are suitable for powder-based additive manufacturing, and not all objects, particularly those made of metal, are able to stand up to high-stress use. For manufacturers of 3-D equipment, the future of their nascent industry depends on broadening the appeal of their equipment by expanding its uses and versatility.

Incredible Shrinking Factory | The 3-D printing process, from digital file to finished product



3D Print Your Unborn Baby's Face

By: **Michael Molitch-Hou**
http://3dprintingindustry.com/2013/07/25/3d-print-your-unborn-babys-face/?utm_source=3D+Printing+Industry+Update&utm_medium=email&utm_campaign=e4cdf9fc96-RSS_EMAIL_CAMPAIGN&utm_term=0_695d5c73dc-e4cdf9fc96-64383657

3D Print Your Unborn Baby's Face. Sounds like a quaint collection of essays by David Sedaris, doesn't it? Actually, it's a real thing and not just a work of non-fiction. In an attempt to make childbirth even more terrifying than it already is, Fasotect, the Japanese company that brought you 3D-printed fetuses, is back again with more printed baby goodness.

CNN's Diane Magnay paid a visit to one Japanese couple that had Fasotec print their son's face just one month before he was born. Using a software called BioTexture, Fasotec technicians were able to create a 3D ultrasound and convert it into a 3D print.

Originally, the company had used MRI scans to capture a fully three-dimensional model of the unborn fetus, but, because of a fear of the possible damage that radiation might do to the mother and child – a small price to pay to know whether your kid's going to be ugly or not before it's born – they've opted for performing an ultrasound of just the child's face. The prints, as mentioned in the CNN segment, may not currently offer much of a medical or diagnostic benefit at the moment; however, Fasotec is also in

the business of scanning and printing organs and bones, which they believe can act as great educational tools for medical students and provide surgeons with pre-surgical models to prepare them for surgery. Personally, I do believe that this is the likely replacement for prenatal ultrasounds. Not just because I work for a 3D printing blog, but because 3D ultrasounds are already being adopted by forward-thinking hospitals and entrepreneurs, five in the Los Angeles area alone: 3D 4D Ultrasound by 4D Special Delivery, Pic A Boo Baby 3D Ultrasound Studio, Picture An Angel, A Baby Visit of Orange County and Los Angeles, and Bom 3D / 4D Ultrasound Studio. ■

3D Printing Will Change the World

By: **Richard A. D'Aveni**

http://hbr.org/2013/03/3-d-printing-will-change-the-world/

To anyone who hasn't seen it demonstrated, 3-D printing sounds futuristic—like the meals that materialized in the Jetsons' oven at the touch of a keypad. But the technology is quite straightforward: It is a small evolutionary step from spraying toner on paper to putting down layers of something more substantial (such as plastic resin) until the layers add up to an object. And yet, by enabling a machine to produce objects of any shape, on the spot and as needed, 3-D printing really is ushering in a new era.

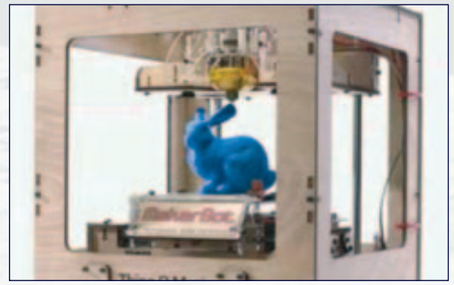
As applications of the technology expand and prices drop, the first big implication is that more goods will be manufactured at or close to their point of purchase or consumption. This might even mean household-level production of some things. (You'll pay for raw materials and the IP—the software files for any designs you can't find free on the web.) Short of that, many goods that have relied on the scale efficiencies of large, centralized plants will be produced locally.

Even if the per-unit production cost is higher, it will be more than offset by the elimination of shipping and of buffer inventories. Whereas cars today are made by just a few hundred factories around the world, they might one day be made in every metropolitan area.

Parts could be made at dealerships and repair shops, and assembly plants could eliminate the need for supply chain management by making components as needed.

Another implication is that goods will be infinitely more customized, because altering them won't require retooling, only tweaking the instructions in the software. Creativity in meeting individuals' needs will come to the fore, just as quality control did in the age of rolling out sameness.

These first-order implications will cause businesses all along the supply, manufacturing, and retailing chains to rethink their strategies and operations. And a second-order implication will have even greater impact. As 3-D printing takes hold, the factors that have made China the workshop of the world will lose much of their force.



China has grabbed outsourced-manufacturing contracts from every mature economy by pushing the mass-manufacturing model to its limit. It not only aggregates enough demand to create unprecedented efficiencies of scale but also minimizes a key cost: labor. Chinese government interventions have been pro-producer at every turn, favoring the growth of the country's manufacturers over the purchasing power and living standards of its consumers.

Under a model of widely distributed, highly flexible, small-scale manufacturing, these daunting advantages become liabilities. No workforce can be paid little enough to make up for the cost of shipping across oceans. And few managers raised in a pro-producer climate have the consumer instincts to compete on customization.

It seems that the United States and other Western countries, almost in spite of themselves, will pull off the old judo technique of exploiting a competitor's lack of balance and making its own massive weight instrumental in its fall.

China won't be a loser in the new era; like every nation, it will have a domestic market to serve on a local basis, and its domestic market is huge. And not all products lend themselves to 3-D printing. But China will have to give up on being the mass-manufacturing powerhouse of the world. The strategy that has given it such political heft won't serve it in the future.

The great transfer of wealth and jobs to the East over the past two decades may have seemed a decisive tipping point. But this new technology will change again how the world leans. ■

How 3D printing could take over the manufacturing industry

By: **John Aziz**

http://theweek.com/article/index/244445/how-3d-printing-could-take-over-the-manufacturing-industry

The laptop I typed this article on is the culmination of a vast, sprawling, and elaborate process over many continents, using many resources, many people, and many machines.

My laptop's construction incorporates plastics built out of crude oil, metals mined in Africa and forged into memory in Korea and semiconductors in Germany, and an aluminium case made from bauxite mined in Brazil. Gallons and gallons of refined oil were used to ship all the resources and components around the world, until they were finally assembled in China, and shipped out once again to the consumer. That manufacturing process stands upon the shoulders of centuries of scientific research, and years of product development, testing, and marketing.

The manufacturing industry today is a huge mesh of complex processes. Capitalism and the systems that it builds are the product of an evolutionary process gradually adjusting around consumer demand and the imperative of maximizing profit. Just as the internet has revolutionized communications and the distribution of information, new technologies already exist that if widely adopted may do the same thing for manufacturing.

3D printers allow physical objects to be designed digitally and printed using physical materials — mostly plastic, but increasingly almost anything (including human cells). Designs can be shared — or bought and sold — through the internet. Already, there are schematics for cars, homes, guns, sex toys, and all manner of trinkets and household items.

The technology is about 30 years old, but with the costs of the machinery rapidly falling — entry-level, fully assembled 3D printers are now for sale for under $500 — 3D printing is poised to move into the mainstream.
Home-based 3D printing has the potential to lower costs, and decentralize and democratize manufacturing, especially as technologies improve and as more complex multi-material printers become available. While buyers of entry-level equipment are mostly limited to plastic trinkets at present, the sky is the limit.

As technology improves, sooner or later the elaborate process of building a computer could be reduced to home manufacture via 3D printer. For cost and convenience, 3D printing at home could become the new normal. That would eliminate a great amount of the costs currently associated with global manufacturing, and ease dependency on fragile global supply chains. It could also drastically reduce the barriers to entry to industrial design and manufacturing, allowing for an influx of new competitors, unleashing a flood of creativity and increasing consumer choice.

An equally exciting possibility: The eventual creation of a disassembler, also known as a Santa Claus Machine, that could recycle household and industrial waste into materials to be reused in a 3D printer. Households could simply disassemble old unwanted objects, and use the materials to print new objects. Combined with a cheap source of renewable energy like solar panels, many households and communities could become very self-sufficient.

Of course, there are already some legal problems. The U.S. State Department recently demanded that schematics for a 3D-printed gun be taken offline. A schematic has been published for handcuff keys, as well as another to create cash machine skimmers that could be used to steal credit card details. And the technology poses a massive challenge to any concept of intellectual property — 3D scanners can scan the physical characteristics of an object, allowing for the easy reproduction of just about anything.

So like with any industrial revolution, there will be challenges and difficulties. As happened with the internet, some people will use new technology for crime and terrorism. The economist Joseph Schumpeter once wrote that "economic progress in capitalist society means turmoil." But like with the internet, it seems probable that the upsides of 3D printing will greatly outweigh the downsides.

Still, the 3D printing revolution may not be as swift as we'd like. For example, although online commerce has allowed businesses and consumers to cut out the middleman, still only 5 percent of all retail sales are done online. Progress is a slow process, and it is hard to predict precisely the time when society will adopt a new technology, system, or idea en mass. But as 3D printing technology spreads, its potential to lower costs and increase convenience has the potential to make the impact of the internet look rather small. ■

Art enters the third dimension

By **Julia Halperin**

http://www.theartnewspaper.com/articles/Art-enters-the-third-dimension/30014

Over the past five years, 3-D printers and scanners have successfully made everything from guns and burritos to fully functioning kidneys. And the art world is taking notice. Artists are using these tools to construct complex works that would have been inconceivable a decade ago, while museums are using 3-D technologies to pioneer new conservation techniques.

Three-dimensional printing enables artists to realise sculptures in previously impractical shapes and sizes. The technology creates 3-D objects from digital models by printing thousands of successive layers of material. The artist Frank Stella was an early adopter. In the mid-2000s, he used a 3-D printer to produce metal and resin segments for his spiralling polychrome sculpture series "Scarlatti Kirkpatrick".

The technology gave Stella "an opportunity to project work out from the wall in a way that would have been difficult, and too heavy, using traditional means", says Ron Labaco, a curator at the Museum of Art and Design in New York. He will include Stella's work in an exhibition devoted to computer-enabled work, "Out of Hand: Materialising the Postdigital", which is scheduled to open on 14 October (until 6 July 2014).

The machines are becoming more accessible. "In the beginning, 3-D printers were only used by industry… to build parts for cars and prototypes for products," says Steven Sacks, the founder of Bitforms Gallery in New York. "Now you can buy one for $2,000." These cheaper models are, however, limited to producing plastic objects, and the costs of creating works in materials such as metal and ceramic are much higher.

The technology is growing in popularity among artists, says the New York dealer James Fuentes. In the past two years, he has visited more than a dozen studios where artists are using 3-D printing. Nonetheless, some artists are loath to disclose their use of the technology.

"There is a stigma… [attached to] some of this material because it is associated with mass production," Labaco says. But others are experimenting with the idea that a mass-produced machine can create a one-of-a-kind object. "If you can hack them well enough, these machines prove to exhibit expressionistic potential," says the Brooklyn-based artist Shane Hope.

He built his own 3-D printer from assorted parts and tweaked the construction to ensure that the machine made mistakes. Fuentes says that, because the technology changes constantly, "there is this tragic instant obsolescence—hence uniqueness—inherent in the work being produced right now".

Challenge to authorship

For other artists, the technology can be used to challenge traditional ideas of authorship. Last year, the artist Jon Monaghan, who is based in Washington, DC, teamed up with New York's Metropolitan Museum of Art to make 3-D scans of objects from its collection and make the data publicly available online. "Museum objects are no longer frozen or static—they are downloadable and remixable," Monaghan says.

The technology is also transforming the practice of museum loans. Conservators can build customised crates for works of art that were previously deemed too fragile to transport. The Smithsonian Institution's Digitization Program Office recently used a 3-D scanner to build a foam cradle for Claes Oldenburg's plaster-soaked cloth sculpture 7-Up, 1961, so that it could travel to New York's Museum of Modern Art for the exhibition "The Street and the Store" (until 5 August).

3-D scanning technology can also be used to monitor the condition of works. For example, the Smithsonian compared a 2009 scan of Bruce Nauman's wax sculpture From Hand to Mouth, 1969, with a scan made this year to find that the work is in good condition.

The full potential of the technology has yet to be realised. "It's one thing to push pixels or plastic around," says Shane Hope. "It'll be another thing altogether when it's atoms." ■

3D Printing Brings Art to the Blind

http://www.3dprinter-world.com/article/3d-printing-brings-art-blind

By **Brooke Kaelin**

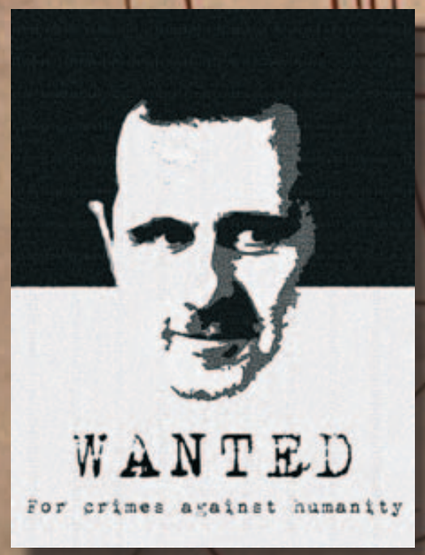
A group of four Harvard undergraduates are working on a project that will turn flat paintings into 3D printed replicas. Those replicas will give blind people a chance to touch and feel classic works of art. The project, called "Midas Touch," was a runner-up in the Deans' Cultural Entrepreneurship Challenge at Harvard. The team was awarded a total of $20,000 to kick-start production.

"We want to bridge the gap between the visually impaired and the visual world of art," said Constantine Tarabanis, one of the project's developers. Before coming to Harvard, Tarabanis spent several years volunteering at a school for the blind in Thessaloniki, Greece. He developed close friendships with some of the people there, but often found it hard to describe visual things like art to them. When his Harvard roommate came home with several 3D printed pieces he said it was like a "light bulb went off."

The team hopes to take classic works of art like the Mona Lisa or Van Gogh's Starry Night and 3D print them to look like bas-reliefs. That way, visually impaired people will be able to touch Mona Lisa's smile and feel the stars in Starry Night.

The team has already produced their first prototype. It's a rendition of the 1964 painting "The Son of Man" by surrealist painter René Magritte. Tarabanis and the rest of the team aren't afraid to dream big. Their goal is to one day see 3D printed reliefs displayed in museums, or included in art history courses at schools for the blind. ■

Culture in Defiance: Street art from Syria's uprising



A large red map of Syria with culture of defiance in bright green letters greets visitors to an exhibition of street art from Syria's uprising in east London's Richmix theatre and gallery. Either side of the map are black charcoal faces, some serious, some smiling but all have an unmistakable message that they are revolutionaries and they mean business.

The banner is at the top of the stairs. The four walls of the gallery below provide a penetrating flash of insight into the images created by the Syrian uprising.

The focal point of the exhibition is the work of the anonymous 15 member poster collective Alshaab Alsori Aref Tarekh (The Syrian people know their way) which combines the country's iconography with traditional motifs, poems, idioms and protest chants in posters distributed online.

The collective started when a fine art student from Damascus University and a calligrapher near Hama were making posters for the Arab spring in Tunisia and Egypt when demonstrations began in their native Syria in 2011. Brainstorming over the internet they were joined by Syrian activists from around the world and have never looked back.

According to the exhibition's co-curator Malu Halasa who salutes an explosion of creative dissent every revolution produces its own imagery. The Syrian collective challenges nearly 50 years of monolithic Baath Party iconography in their political powers. "The significance of these new posters available as print on demand online, was put into perspective for me by the exhibitions fellow curator Aram Tahhan who once stayed in a military-owned hotel. 'Everywhere there were pictures of Bashar al Assad or his father, his three children, his martyr brother and sometimes his elegant wife. These prevented the residents from appearing in the corridors in their swimming suits, presumable to protect the modesty of the president'. Sometimes the messages of a brutal state can live in unexpected ways in the minds of the subjugated."

When the Syrian revolution started the first act of the protestors was to destroy and burn the works which glorified 'The Immortal Leader' and his 'great' achievements. By getting rid of the old posters the revolution paved the way for the emergence of different kinds of political posters – ones that are cleaver, visually and intellectually. They were another way of, re-occupying the streets with images, mottos and ideas radically different from those expressed by official Ba'ath Party banners.

As one member of the group explained: "We wanted to do anything for the revolution and we started with some expressions and some Arabic calligraphy and gradually the work developed."

Most of the posters produced by the collective are influenced by modern art movements such as impressionism and abstract expressionism. The words have been inspired by humanitarian sentiments expressed by poets like Baudelaire, as well as explicit phraseology found on international political posters.

Highlights

The work of Khalil Younes is also on display at the exhibition. Through his pen and ink drawings he hopes to address the main themes of the Syrian uprising and in the series The Revolution 2011, to bestow a record that future generations can appreciate.

For the painter, illustrator and video artist the contrast between the Syrian and Egyptian uprisings was heart breaking. "We saw hundreds of thousands of professionally taken photographs of the Egyptian revolution. Yet because international photographers were not allowed into Syria we were only seeing the videos that people are taking and hearing their stories. More than that, video is not accessible as still images and it does not last as long. It is not something you can print on your own printer and put on your wall."

He feels there is a need for someone like him to take up the cause and to capture current historic events. "As artists we should make something that not only reflects on the revolution right now, but that will last two generations from now. I felt it should be done in the style of Francisco de Goya. Someone will see this work and say, 'This is the Syrian revolution'.

The words of the revolutionaries are on the wall:

"I realised a few things
From my experience of being arrested.
First of all, in prison you learn to be patient.
Anger, after all is only meaningless
Consumption of human energy, but it can be useful.
Anger is what you hold on to so you can
Get up the next morning.
In detention you also learn to be less selfish."

The voices of the ordinary people are heard through the exhibition. After being obscured and silenced for decades of dictatorship the Syrians are finally telling the world who they really are. ■

Highlights

Launch of new Premises

CLARE KENNY
Solo exhibition

Vitrine is delighted to announce a solo show of new work by Basel--based artist Clare Kenny; the gallery's inaugural exhibition in the new ground floor premises at 183--185 Bermondsey Street, London. Continuing its pioneering success as Bermondsey's leading purveyor of emerging talent, VITRINE will move from its first floor premises at 183--185 Bermondsey Street to a larger, street level space to better cater to its ever expanding program.

Launching in October to coincide with London's Frieze week, the gallery will present ambitious new work by Clare Kenny. Kenny creates work that is a hybrid of photography and sculpture. Often using photographic imagery as a means of navigation or a strategy to inform a three--dimensional piece, she explores possible slippages between materiality and subject matter. Form and content reflect a concern with the nebulous divide between fact and fiction. Real and fabricated memories of the artist's life are recorded and fed into the images and materials that comprise each work. Images are manipulated in stages, often abstracting or duplicating details in an attempt to reveal new meaning or question ideas on authenticity.

Following her recent residency in Paris at Cite des Artes, her solo show at Vitrine will be shaped around new work developed over this period and since. ■

Highlights

Graffiti Art

To boost your inspiratio

GRAFFITI (OR SPRAY PAINT) OFTEN REGARDED BY OTHERS as unsightly damage or unwanted vandalism. But some times, the boring wall is supplied with a true piece of graffiti art, making it a joy for the eyes. A new game from Atari, Getting Up, is based on tagging.

I made a collection of pictures showing these fine spray paint creations. By looking at them and studying the details, you could boost your (Photoshop) design inspiration. If you're not in to design, just sit back and enjoy this amazing form of art. ■

fARTissimo

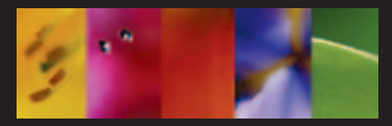
By **Thanos Kalamidas**

Maltese gentleman pirate

In an issue all about 3D there is an character which is beyond the known three dimensions. Corto Maltese (whose name is possibly derived from the Venetian Corte Maltese - Courtyard of the Maltese. He is a laconic sea captain adventuring during the early 20th century. A “rogue with a heart of gold”, he is tolerant and sympathetic to the underdog. Born in Valletta on July 10, 1887, he is a son of a British sailor from Cornwall and a gypsy Andalusian witch and prostitute known as “La Niña de Gibraltar”. As a boy growing up in the Jewish quarter of Córdoba, Maltese discovered that he had no fate line on his palm and therefore carved his own with a razor, determining that his fate was his to choose.

Although maintaining a neutral position, Corto instinctively supports the disadvantaged and oppressed. Corto Maltese’s character is based on a famous Polish adventurer, author and explorer Ossendowski. The character embodies the author’s skepticism of national, ideological, and religious assertions. Corto befriends people from all walks of life.

His acquaintances treat him with great respect, as when a telephone call to Joseph Stalin frees him from arrest when he is threatened with execution on the border of Turkey and Armenia. Corto’s favourite reading is Utopia by Thomas More, but he never finished it. He also read books by London, Lugones, Stevenson, Melville and Conrad. Corto Maltese stories range from straight historical adventure to occult dream sequences. ■



What time is it?

By Avtarjeet Dhanjal

This article is only a flavour of a larger work, that I am researching and working on, that may take another year to expand in depth.

"Imagine the Earth devoid of human life, inhabited only by plants and animals. Would it still have a past and a future? Could we still speak of time in any meaningful way?

The question "What time is it?" or "What's the date today?" — if anybody were there to ask it — would be quite meaningless. The oak tree or the eagle would be bemused by such a question."

Above lines are from the book 'Power of Now by Eckhart Tolle, a Canadian spiritual teacher.

Throughout history philosophers, scientists and other thinkers have been asking questions about the TIME.

Time and Money are two most precious items (concepts) for the modern man; two concepts created by the man for its own book-keeping. In reality, both have no intrinsic worth. What is really the Time? What we call time is only relevant while we are on this planet, once you leave this planet Earth, time as we know it loses its meaning.

There is a deeper reason for man to measure time, to create clocks and annual calendars.

Let's see how it all began.

Once man learnt to count, add and multiply, he started to count the days for the moon to reach its full glory, created a lunar calendar and divided the days into hours, minutes and seconds. This was in Mesopotamia (modern Iraq) by the Sumerian people. Sumerians developed the counting system of Sexagesimal (60), as it is the lowest common multiple of 1, 2, 3, 4, 5, and 6. As a result our clocks and degrees on compass are set in the sets of 60s.

Whereas Indian mathematicians having the advantage of a well-developed system of numbers, and the number zero, managed to calculate time from a fraction of a second (Truti) to billions of years. Indian time was connected to functions of the body; such as unit of time that takes to blink an eye or to breathe in and out. According to ancient Indian thinking, at the time of our birth each one of us is allocated a number of times our body shall oscillate/breathe in and out during our life time. Once we have taken the allocated number of breaths and reached that number we simply die. That's where the Indian expression for death, 'one has completed his/her number of breathes on the planet' comes from.

Modern clocks and calendars were developed from the economic needs of the day. Western man's obsession with precision led to development of oscillating quartz clocks to most recent ones using oscillation of caesium atoms. All these devices are to measure precisely the daily and annual cycles of the earth, and it has no bearing on the oscillation of quartz or other atoms on this planet or anywhere else in the

last Drop

universe. Otherwise the number of oscillations of quartz crystal 32768Hz (per second) would not consist of such odd numbers.

Above is all book-keeping and measuring units and devices; none of it explains what we really mean by 'TIME' and why we are so obsessed by it!

Incidentally, nobody know why life happened to develop on this planet we call 'Earth'; the only planet known in the visible universe, that happened to be so (lucky?). This planet, along with several others planets of our solar system, orbits around the sun; and each planet takes its own time to do this journey and to return to the same point in space.

The planet Earth, as far back as we know, has kept the same time to complete this cycle. Though precise measuring of the sidereal year is very recent, but Indian mathematicians have worked out the length of the sidereal year over a thousand years earlier than our recent calculations. The difference in both calculations is only a fraction of a second, probably due to Indian mathematicians not having access to the modern day computers.

The second part of the equation is that our planet also revolves on its own axis, which creates our day and night.

All life on this ever revolving, planet has developed its bio-rhythm based upon these two cycles annual and daily. The oscillating effect of these two cycles gets recorded into each form of life physically and mentally. These daily and annual oscillations of fluids in organic bodies when repeated again and again take their toll.

Each form of life has its own limit, depending upon various factors of its development and growth and how many oscillatory cycles its physical body can take/stand before it breaks down. As a result each form of life on this planet has its own pace of growth and of withering.

Each form of organic life has its own markings of growth and withering, visibly changing its shape and size and several other signs, such a number of rings of a tree trunk, growth and change of colour and size of hair on most animal's bodies etc. etc. These changes are known conveniently as growth or ageing signs.

Another factor that plays an active role in this ageing process, though remaining invisible, but most persistent is the 'gravity' of the planet we live on. Gravity is a very persistent force that pulls everything back to the earth, whereas life force means 'growth' continuously struggling to defy gravity.

This very play between life force and the gravity creates the whole drama of existence on this planet, where we humans happened to be born; not only to witness it but to take part in this drama of life.
Paul Davies wonders in his book 'Cosmic Jackpot', also published under the title The Goldilocks Enigma: Why is the Universe Just Right for Life? I would ask why only this planet had the goldilocks conditions that gave birth to life to us as strangely curious human beings?

It seems, I have wandered into a different philosophical or scientific question, coming back to "what really time is?" One can't stop oneself wondering upon our luck as humans, in the first place, when life developed on this very planet where we are living today with our fellow human beings, among whom are many friends that give meaning and stability to our life.

Luckily we have also develop an awareness, contemplative and intellectual mind to wonder upon such questions of 'time' and existence etc. In the 21st century we also have the means to share our questions and deliberations with a large number of people, whom we probably would never meet in our life time.

This very sense of 'life time', with its limited timespan, what makes us experience and wonder about the reality of 'time'.

last Drop

If this planet was not revolving, or not orbiting around the sun annually, and been without the force of gravity, maybe, I repeat ‘maybe’, the life span of everything on this planet might have been limitless means static and inert.

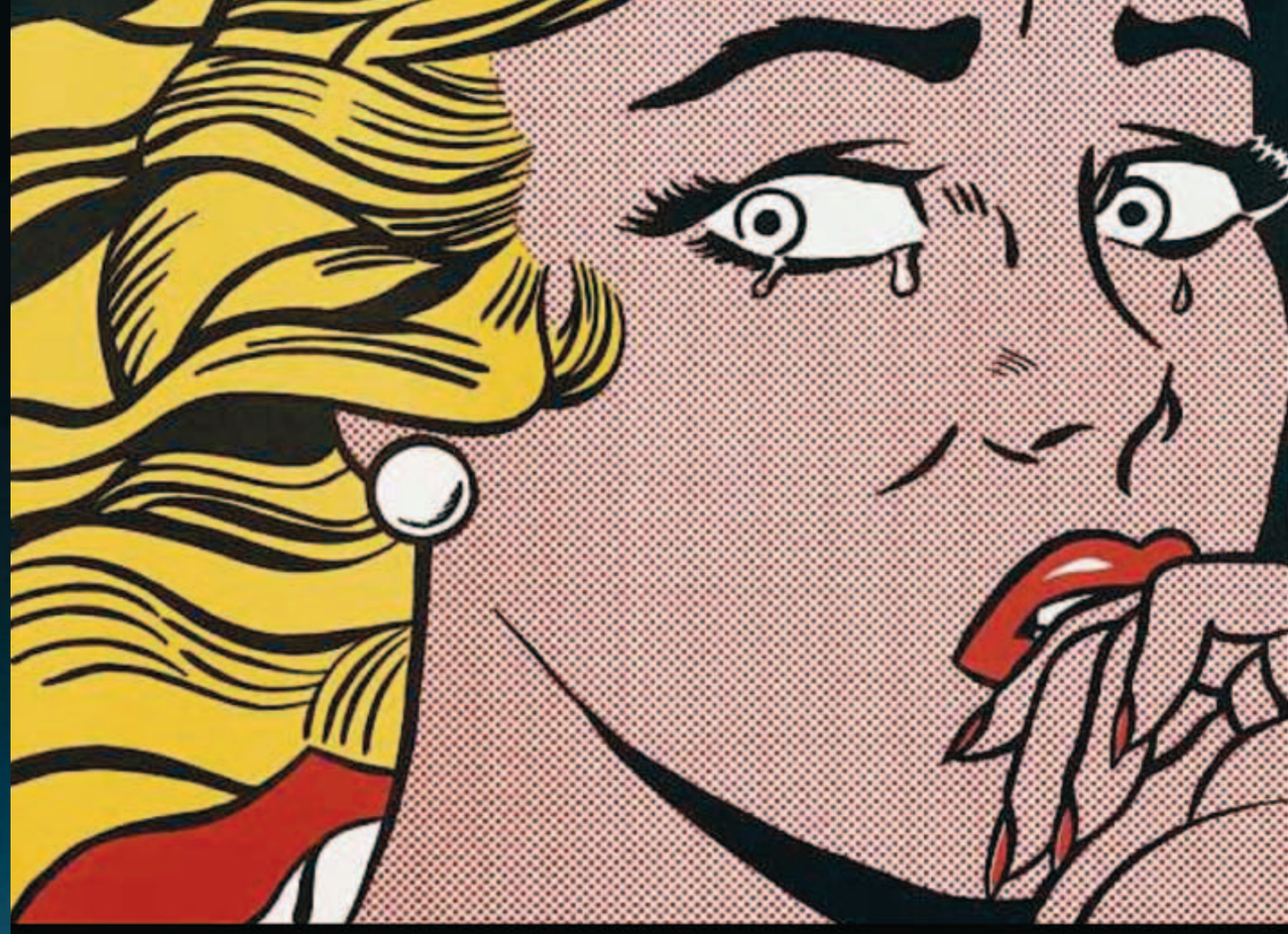
On the other hand, without these cycles and the gravity of the planet, there would have been no life in the first place. After all ‘life’ means continues change/growth, withering and death.

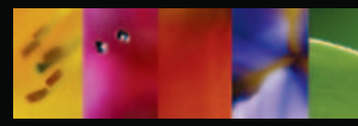
This is the reason word for ‘time’ in Sanskrit is ‘kaal’, which also means ‘death’. Acceptance of continuous change is the secret of life and ‘time’ as well.

PS. There are several other questions about ‘time’ that I do not have time today to consider and deliberate upon, such as Einstein’s idea of flexible time, ‘when did the time began’ etc. etc. Perhaps another time life will give me the enough time to deliberate upon further questions.

Avtarjeet Dhanjal

01 August 2013
(dated based upon to our internationally accepted form or recording time.)





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