

'Repurposing Print' the Mantra of Success in Modern Print Education!

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Food for thought for continuing the round table discussion we had at the IC meeting at Budapest on the Future of Print Education

Dear Colleagues,

At the outset let me take this opportunity to express my sincere thanks to Prof. Dr. Csaba Horvath and Prof. Dr. Istvan Patkó for their love, affection and care and making the 44th International Circle Annual Conference a great success. My special congratulations to Prof. Dr. Wolfgang Faigle, our beloved president, for bringing up this important topic, on 'Future of Print Education', for the round table discussion during the recently concluded 44th IC meeting at Budapest.

I strongly believe that the IC is the only deserving platform, fully qualified to discuss such an important topic being the apex body of world printing teachers (members from more than one hundred educational institutions in approximately fifty countries!).

I am on my way back to India, now waiting at the Sheremetyevo International Airport, Moscow. My mind is still filled with the discussions we had at the round table on 'Future Print Education'. Let me try to scribble some of my thoughts on the topic 'Future of Print Education'.

Exactly a year ago when I was asked to make a speech at Printsummit-2011 in Mumbai (a very popular annual event in India) I was in a dilemma to choose a topic. I started asking myself self-critically, of course thinking purely from the Indian perspective.

Many universities are used to complain on the poor quality of students who opted for printing technology as their major course. Some of them even find it difficult to fill up their allotted seats. More prominent universities were able to at least fill up the seats even though some students opted for printing as a last resort only.

In the latter case the interest of the student is only to obtain an engineering degree (irrespective of the branch) from that particular reputed university. 95% of the students from these colleges usually choose a job outside the printing world. The majority goes to the software industry, and this creates a real dearth of quality printing technology graduates.

'Why our industry is always looked down by others'? Is it just because the salaries offered are much lower than their counterparts in other branches? Or is it because ca-

reer prospects are limited? Why are the profit margins decreasing day by day even after investing huge amounts on machinery, equipment and systems? Who is responsible for this low premium 'product output' and cut throat competition in the market? Why is my print industry like this?

To find out an answer I decided to look around and study how other industries are changing and embracing innovation. It was really surprising to me to realize that they are all much better in understanding one simple concept, and I coined a word to express this: 'Repurposing'.

All over the world, specifically in the teaching arena, people think that adding the particle 'media' may help us to reposition ourselves, 'media science' e.g., or 'media technology'. Is it really true? Can we develop a sustainable model by doing so?

The round table discussion at our recent Budapest IC meeting on the topic 'Future of Print Education' was also more or less moving along these lines.

I have a humble request to you before you read the arguments below: Do not consider this as a murmuring or frustration of a machine manufacturer. Of course I am not against adding these new media convergences to our curriculum. But up to what extend? And which areas?

At this juncture I do remember an ancient Indian philosophy told by Guru Ravishankar, which explains the importance of being unique and being proud of what you are.

'A plum once said, 'just because a banana lover came by, I converted myself into a banana. Unfortunately, his taste changed after a few months and so I became an orange. When he said I was bitter I became an apple, but he went in search of grapes. Yielding to the opinions of so many people, I have changed so many times that I no more know who I am. Now I wish I should have remained as a plum and waited for a plum lover.'

Just because a group of people do not accept you as you are, there is no necessity for you to strip yourself of your originality. You need to think good of yourself, for the world takes you at your own estimate. Never stoop

down in order to gain recognition. Never let go of your true self to win a relationship. In the long run, you will regret that you traded your greatest glory – your uniqueness – for momentary validation. Even Gandhi was not accepted by many people. The group that does not accept you as YOU is not your world. There is a world for each one of you, where you shall reign as king /queen by just being yourself. Find that world... In fact, that world will find you. What water can do, gasoline cannot and what copper can, gold cannot. The fragility of the ant enables it to move and the rigidity of the tree enables it to stay rooted.

Everything and everybody has been designed with a proportion of uniqueness to serve a purpose that we can fulfill only by being our unique self. You as you alone can serve your purpose and I as I alone can serve my purpose. You are here to be you... Just YOU. There was a time in this world when a Krishna was required and he was sent. A time when a Christ was required and he was sent; a time when a Mohammed was required and he was sent. A time when a Mahatma Gandhi was required and he was sent.

There came a time when you were required on this planet, and hence you were sent. Let us be the best we can be. In the history of the universe, there has been nobody like you and to the infinity of time to come, there will be no one like you. Existence should have loved you so much that it broke the mould after making you, so that another of your kind will never get repeated.

You are original. You are rare. You are unique. You are a wonder. You are a masterpiece. Your Master's piece. Celebrate your uniqueness.'

Being 'Unique Teachers of Printing Technology', let us try to find out the uniqueness in printing, which is nothing but repurpose 'Print'. Otherwise we will face the same situation as the plum by losing our identity and forgetting what we were.

I personally do not believe in transforming ourselves into something else by sacrificing our identity. The only option in front of us is to repurpose our print technology. Thanks and regards to Prof. Dr. Arved Carl Hübner of the Technical University of Chemnitz, Germany, who did it years ago.

Archimedes incidentally noticed overflowing of water from the bath tub while taking a bath. He suddenly realized the principle of buoyancy, and immediately applied it to find out the purity of gold in the King's crown

which was needed for saving his life. Remember the 'Eureka' story.

Later the same theory was repurposed to develop a ship which eventually changed the history of navigation and the world.

Today every industry is doing the same. I mean repurposing. Look at our print media industry, which demands huge capital investment and high level application know-how with a perfect scientific base. But still the output is 'just a print'. Our printing machine is considered to be one among the most high precision and complex technologies ever invented by mankind. A marvel of engineering and technology which can only be compared in accuracy and timing to a satellite launching system.

The operation of a printing machine is sometime compared to manoeuvring an aircraft. Any other technology, comparable to printing or even less complex, will always produce an output which is really worthy (premium). But our print technology still produces the very same 400 year old output 'The Print', rather 'Ink on Paper'. Look at a lathe machine, which is much less complex and complicated than a printing machine, which always produces a premium product.

'Who is responsible for this?', I was asking myself. The answer is just one word, 'We'. We never tried sincerely to repurpose and explore the capabilities of print technology.

Ok. Then, 'What is printing to me?' After asking this question myself repeatedly, I found an answer. 'Printing is a coating process in which we can carry forward certain materials (nano, bio etc) from a pre designated source and deposit onto a selected substrate from a variety of choices on a controlled quantity (even at micron levels) with high precision, high consistency and high speed'.

I am convinced of one thing. Do not look at print just as a technology for 'adding ink on paper' or clubbing a few 'E-applications'. The advances in 'Nanoscience', micro structuring, bio science and precision engineering' helped us in developing a different segment in manufacturing. Of course, miniaturization of everything around us created this requirement.

Thus I am convinced that print technology must be repurposed to produce much better premium products which will justify the high investment, complexity, accuracy and the application knowledge requirement of the technology. This has already begun around us. Let us support them, being a part of all these modern innovations.

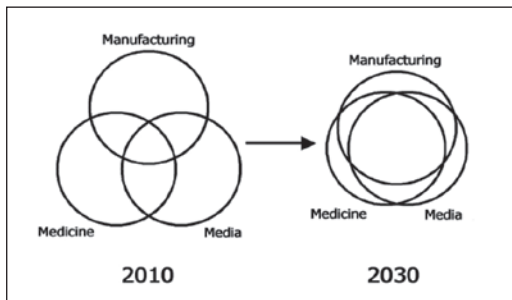
Latest researches happening in and around our field:

- Cross Media Linking with Augmented Reality (AR) (to retain conventional print)
- Printed Batteries, Photovoltaic Cells, Solar Cells
- Connecting luxury brands with touch code technology
- Low power printed electronics for Humans
- Smart skin-MC10
- Printed Implantable devices
- Printed organs
- New nanomaterials that steer current in multiple dimensions (Could a computer one day get rewired by printing?)
- Developments in functional Electronic Inks, Conductive, Semi conductive and Dielectric inks.
- Scalable printed CMOS memory (by Thin Film Company)
- Tiny printed artificial muscles (university of Wollongong, Australia)
- Electro Luminescence, Push Buttons
- Printed Leaves ...?

My Believes:

The industrial convergence sketched below is going to happen in the next two decades:

Medicine (Health Care)



If we are convinced with the above convergence theory, instead of going behind electronic media let them become a subset of our 'Print Technology'

I strongly believe that repurposing of technology, materials, substance, dimensionality, assimilation and sense is going to make us different and successful in our business.

Let me conclude with some points to predict the future of printing in a nutshell:

- Printing will be a part and parcel of all modern innovations. (Printed electronics, bio printing, functional printing, 3D printing, etc) .
- It will be an integral part of medical science, certainly be a major contributor to mechanical manufacturing.
- Printing will play a crucial role in electronics because products are becoming 'SMART'.
- Printing technology will remain the most productive structuring technique.
- Printing of electronic functions will become an added value and part and parcel of many applications.
- Traditional printing technologies like offset, flexo, gravure and screen will continue in a more important way because of their precision, cost benefit ratio and speed.
- Digital printing will become an additional production support, and that, too, will grow in its own domain!

So let us all try together to retain the power of print as a 'Technology & Engineering' for the future, and not just by going behind the shadows of 'Electronic Media'.

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