

INTERGRAF'S 2021 YOUNG TALENT AWARD 2021

Constança Duarte Barbosa Simões – PORTUGAL

1. HOW WILL PRINT DEVELOP IN THE FUTURE?
2. WHAT KIND OF WORKING ENVIRONMENT ARE YOU LOOKING FOR? HOW COULD A PRINT COMPANY PROVIDE THIS?

There is no doubt that we are living in a technological age, characterized by the use of technologies that change the way of communicating, working and thinking.

In spite of the many benefits brought by this digital age, such as productivity and communication, the graphic industry sector has been suffering from this change. Two examples are the fact that paper-based communications have been replaced by emails and the paper books by the digital books, although a large percentage of readers prefers a traditional book.

Nowadays, the sustainability is just as important as technological advance. Studies have proven that the currently available resources are not enough to sustain our current lifestyle. In another words, the resource depletion is faster than their renewability.

The Graphic Industry shall take advantage of this technological age to develop **sustainable, ecological and productive design methods**.

TECHNOLOGICAL MODERNISATION

One of the best effective solutions for the Graphic Industry is the technological modernisation. This innovation allows a single device to combine multiple processes simultaneously, achieving results as: better image definition, faster presentation of solutions, more real colors and optimization of resources and time during the production.

The Heidelberg Printers are an excellent example because they have made significant progress. In addition to quality printing, they can also allow graphic finishes: matte, gloss, holographic, fluorescent, metallized, UV coating and other processes.

The technological evolution also presented us the Hybrid Printers. By replacing a conventional Offset Printing Machine with a Digital Offset/Waterless Offset Printing Machine, the benefits are:

- **Non-use of CTP (Computer to Plate)**, being replaced by CTPress (Computer to Press). The data is digitally sent from the computer to the printer, revealing the plates in the printer. This method is possible due to the use of specific plates.
- **Water becomes unnecessary for printing**. The plates used for printing are composed of photopolymer areas, which attract paint; and of areas of silicone rubber, which repel ink. The water becomes useless.

- **Brighter colors with no color variation.** Since water is no longer needed for printing, the inks are pure printed, allowing less point gain, better halftone subtlety and a faster drying.
- **More functional machine hits, avoiding paper waste.** There are no longer any registration problems, because the plates are fixed on the printer before being digitally recorded and are discarded at the end.

This is the HP Indigo 3550 hybrid printer method. Despite being a more sustainable printing method, consumables (inks and plates) are more expensive and still has some conditioning, due to being a recent and underdeveloped method (an example is the fact that the plates have a print limit that depends on their production). With the Offset Digital development and modernisation, I believe that this will become an ecological, sustainable and positively economical process.

Another interesting solution is DICO technology, developed by MAN-Roland in 2000. This process exempts the use of plates, replacing them with virtual matrices, through Squarespot – a thermotransfer (laser) process. We can find this technology in the rotary Dicoweb.

DIRECT PRINTING METHODS

Adopting direct printing methods is also an excellent solution, as they allow an integrated workflow and a decrease in the stages of the process.

Thanks to the technological advances of recent years, the excellent quality of digital printing makes it practically impossible to distinguish a digital printed object from an offset printed work.

There are many advantages of Digital Printing like the possibility of printing variable data and accurate color proofs to the final work, in addition to the following sustainability benefits for this sector and for our planet:

- **Dispenses matrices** (plates, for example) since it is a direct printing method
- **Uses toner instead of ink**, avoiding the use of water, solvents and other toxic products for cleaning the printing machine. Even considering its components and redirected them to the appropriate recycling in order to minimize the harmful effects, still have a giant relevance on a planet that we want to be "green"
- **Prevents atmospheric emissions**, such as ink evaporation from drying time after Offset Printing – dispensable process in Digital Printing, because it doesn't need drying time

Digital Printing also allows large-format printing - which is increasingly gaining ground these days, whether for commercial products, decoration or communication. Investing in the development and improvement of direct print methods will certainly be a major step towards sustainability in the printing industry.

ECODESIGN

It's also necessary to adopt an ecological design, where the designer can create the products, while contributing to the reduction of environmental impact. The final product involves several processes and, consequently, environmental aspects.

The challenge for the designers is to continue to imagine and create, adopting the methodology of Ecodesign.

Ecodesign is understood as the study and experience of the graphic design sector regarding environmental issues. This method starts with the *Life Cycle Assessment*: a quantified analysis of the main environmental impacts of an activity or product and their life cycle processes.

The objective is to propose alternative routes, seeking to manage, eliminate or reduce these impacts. This generates a new concept of product, process and service.

- *Pre-production*: In the creation phase, it is intended to optimize the function of the product, save natural resources and give preference to renewable and recycled resources.
- *Production*: rationalization of resources, prevention or minimization of waste. Increase the durability of the product, prevent or minimize the impacts of the use of the product. Optimization of the packaging system and implementation of an adequate logistics system.
- *End-of-life*: optimization of product reuse, recycling of materials and adequate disposal of non-recoverable materials

In short, Ecodesign integrates environmental aspects into the product development process, by balancing ecological and economic requirements, opting for products that represent the least environmental impact throughout the life cycle of the product.

SUSTAINABLE DEVELOPMENT

Sustainable development is an added value for businesses. In addition to being economically viable, by altering each operation with the aim of decreasing and avoiding waste, it is increasing the safety of employees, the community and consumers, while still conserving energy and resources. Prioritize professionals with a higher level of knowledge about environmental aspects of the product they design or the service they offer, can improve the production process, make it more economical, sustainable and reduce the environmental impact.

WORKING ENVIRONMENT

Stress and pressure are present in our daily routine. Due to the modernization and optimization of production processes, which allows us to do the same work in a short time, we are obliged to meet shorter deadlines. If the work is done in an 8-hour production day, we will demand that it be done in 4 hours.

I always keep the following mindset: "No quality work can be done without concentration and self-sacrifice, effort, dedication and doubt."

If the works are to be produced, we must meet all the necessary conditions. The file needs to be well executed. All equipment is fallible and requires regular maintenance. There may accidentally be a breakdown of the equipment, or sometimes the customer requests certain raw materials that are not in stock. Here comes the so-called "stress" - a very present and current word in our day. When this happens, no matter how much human effort we spare, there is a sense of failure, impotence and incapacity...

The work becomes a frustration and, consequently, the day-to-day very heavy psychologically.

I believe that a large part of the stress cases are due to the lack of organization of the day and the lack of priorities. In the days we live in, it is practically impossible to ask that there be no pressure on a daily basis, as it will not depend on us. We can rather learn to deal with it, and one of the great allies is the organization.

The most important thing to be well at work is to definitely **love what you do and work with people who love what they do**. If this is a reality, even if the routine is stressful, it will be pleasurable.

In my opinion, the 5 most important factors for a good working environment are **trust, communication, respect (mutual and hierarchical), positive psychology and business development**.

It is also important to have a team willing to give their best with a common goal: the best possible end product. The dedication of all members is also one of the keys to a realized company.

We are in an area where ideas flow as naturally as we breathe. We are creative. Working in a company where there is openness to new ideas, new content and new methods, is fundamental for the future.

CONCLUSION

We do not know what the future holds for us. It is up to us to seize every opportunity of this fantastic era, finding the best solutions and increasingly developing printing methods, making them more sustainable, more economical and more ecological.

I believe that the printing industry sector may be reduced, but it will not end.

Creativity can never be replaced by machines, so let's be creative.

THANK YOU!

Constança Duarte Barbosa Simões