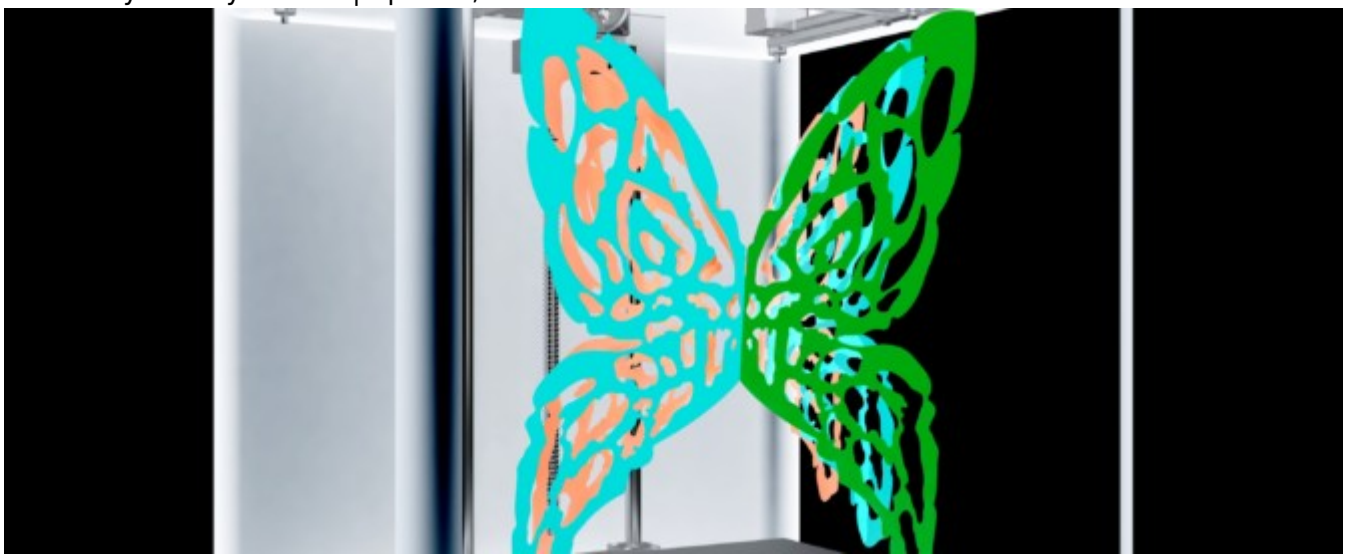
3D PRINTING AND COPYRIGHT

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written by Melody Musoni | April 10, 2019



"The year is 2060, and Mark is ready to move into his new house. The house was built (printed) using 3D Printing technology. All the décor and furniture in the house has also been printed using a 3D printer. In just a few hours, Mark will be having his housewarming party and has also printed all the food for his guests. By the time his guests arrive, his house is well furnished and decorated with brand new items and 3D printed food awaits his guests."

The 4th Industrial revolution is marred with all kinds of disruptive technologies including the above futuristic scenario. At first glance, the above scenario sounds like an extract from a science fiction movie, right? If one wants to buy furniture, there are a few options which involve having to go to buy the ready-made furniture from a furniture store or buying the materials for a DIY project. However, three-dimensional printing (3D printing) is disrupting not only the traditional 2D printing process but every other industry from manufacturing industry, pharmaceutical industry to food industries. It is a matter of time before every physical object, instead of being manufactured by heavy machinery and equipment, is printable by a 3D printer.

3D printers build objects by adding small amounts of liquid or powdered material such as plastic layer by layer, from the bottom up.[i] During the layering process, heat, light, or chemicals are precisely applied to bond and strengthen the structure.[ii] This layering approach enables 3D printers to construct highly intricate forms that would not be possible by simply using cutting or shaping tools on solid blocks of material.[iii] 3D printers can print out anything, from a lithium-ion micro-battery to a human kidney, and can print materials like plastic, metal, ceramic, cement, wood, food, and human cells.[iv]

The sci-fi scenario given above is not in the too distant future. In March 2019, South Africa and the world witnessed the first ever surgical operation using a 3D printer. At Steve Biko Academic Hospital in Tshwane, Gauteng, 3D printing was used to print the middle ear which was successfully transplanted on a patient by a team of surgeons led by Professor Mashudu Tshifularo.[v] With time, people are going to be able to use 3D printing in the comfort of their homes to make (print) almost anything they want for themselves and bypassing manufacturers and retailers who charge costs of manufacturing, warehousing, retailing and advertising. 3D printing therefore opens a new wave of innovation from the home, the start-up and large firms.[vi] 3D printing raises various issues and concerns which fall outside the scope of this article such as, the protection of patents, health and

safety of 3D printing in the home (how should law regulate 3D printed food and medical devices?), product liability and firearms control.

How does 3D printing affect copyright?

A copyright is the exclusive right in relation to work embodying intellectual content to do or to authorize others to do certain acts in relation to that work, which acts represent in the case of each type of work the manners in which that work can be exploited for personal gain or profit.[vii] Unlike other forms of intellectual property rights, copyright is granted automatically when its requirements are fulfilled without any need for the owner to apply for the registration for the protection of the copyright. The Copyright Act[viii] defines artistic work to include paintings, sculptures, drawings, engravings, photographs, works of architecture, being either buildings or models of buildings or works of craftmanship. Part of the exclusive rights enjoyed by the owner of copyright in artistic work include the right to reproduce the work in any manner or form.[ix] Section 23 of the Copyright Act provides that copyright shall be infringed by any person, not being the owner of the copyright who, without the license of such owner, does or causes any other person to do, in the Republic, any act which the owner has the exclusive rights to do or authorize. This means that should a third party reproduce a sculpture, drawing, building or engravings through 3D printing, they will be infringing on the rights of the owner in the artistic work. The owner of the copyright work that has been infringed through 3D printing can approach the court for relief by way of damages, interdict, delivery of infringing copies or plates used or intended to be used for infringing copies or otherwise shall be available to the plaintiff as is available in any corresponding proceedings in respect of infringements of other proprietary rights.[x]

The infringement of copyright through 3D printing in the privacy of one's homes can be justified by the principle of fair dealing. Fair dealing means using the work to the extent reasonably necessary for a particular purpose while being careful not to prejudice the author by taking excessive amounts of the work concerned.[xi]

Conclusion

3D printing has the potential to improve the lives of many people and make resources readily available at the fraction of the price. When reproducing artistic work, people need to tread with caution to avoid infringing on the copyrights to such artistic work.

[i] Daniel Harris Brean 'Asserting Patents to Combat Infringement via 3D Printing: It's No "Use" *Fordham Intellectual Property, Media and Entertainment Law Journal* 2013 (23) 771 at 774.

[ii] For a video showing a 3D printing process click https://youtu.be/G0EJmBoLq-g accessed 2 April 2019.

[iii] Daniel Harris Brean 'Asserting Patents to Combat Infringement via 3D Printing: It's No "Use" *Fordham Intellectual Property, Media and Entertainment Law Journal* 2013 (23) 771 at 774.

[iv] Jasper Tran 'The Law and 3D Printing' *The John Marshall Journal of Information Technology and Privacy Law* 2015 (31) 505 at 508.

[v] http://www.capetalk.co.za/articles/341240/sa-doctors-use-3d-printing-in-world-s-first-ever-middle-ear-transplant accessed 2 April 2019.

[vi] Deven R Desai & Gerard N Magliocca 'Patents, Meet Napster: 3D Printing and the Digitization of Things' 2014 (102) *The Georgetown Law Journal* 1691 at 1693.

[vii] Owen H Dean *Handbook of South African Copyright Law.*

[viii] Copyright Act 98 of 1978.

[ix] Section 7 of the Copyright Act 98 of 1978.

[x] Section 24 of the Copyright Act 98 of 1978.

[xi] Thomas Fuhrmann '3D-Printing: A new challenge for Intellectual Property?' University of Cape Town *LLM Thesis* 16.