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Immateriality or How is 3D Printing and Maker Culture, altering mainstream production and creative industry norms.

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As digital layer manufacturing and rapid-prototyping technologies continue to mature; gaining footholds in increasingly diverse sectors from craft, to mass manufacture; these technologies are challenging conventional logistics and economic models of production, distribution, and even consumption. We might rightly start to ask deeper questions of these technologies impact; what consequences, as well as opportunities, might a world full of on-demand 'ready-made' artefacts create culturally and aesthetically. Design and manufacturing technology is pretty successful at creating endless commercial demand and delivering boundless product[s], but at huge ecological and societal cost. Whilst, alternative models do exist like the Maker and FabLab movements, which tentively disrupt these paradigms and seek to 'democratize' both the technologies of production and distribution, and more interestingly challenge conventional logistics consumption.

The 'norms' delineating the designers' role here, in creating and servicing a demand for mass-produced stand-alone products is giving way to a new Freedom of Design conception, a move away from Design for Manufacturing to Manufacturing for Design. With these additive manufacturing and production technologies increasingly blurring the boundaries between industrial modes of mass production, and batch or bespoke artisan 'crafted' design and manufacture. The resulting opportunities and challenges, to notion of distance[s] having been conceptually removed (physical and temporal) with manufacture, distribution and consumption decentralized or wholly mediated. To perhaps more subtle influences, with on-demand 'distinctiveness' and 'uniqueness' being built into custom-mass-market or multiple-one-off manufacture business models, with the result that we might rightly ask more critical and philosophically probing questions, of the nature of these artifacts, their contextual and cultural affordances offered (Norman 1988).

This paper therefore seeks to develop an argument for a more critical reading of our relationship with these artifacts, the processes, products and objects resulting from these technological developments: digital layer fabrication and Fablab models. Making sense of these objects culturally and philosophically might involve developing more nuanced understanding or relationships with these products, their production and more importantly their consumption. This paper attempts to develop a critical position based on the notion of contextual specificity, drawing on Kopytoff's notion of Cultural Biology of Things (Kopytoff 1986) and Brown's Thing Theory (Brown 2004). This paper will develop the notion of contextually specific digital object topologies, as a critical counter-point to contemporary digital design practices, in order to locate these new 'multiple-unique' artefacts within our contemporary cultural milieu.

Brown, B. (2004) *A Sense of Things*. University of Chicago Press.

Kopytoff I. (1986) *The Cultural Biology of Things: Commodification as a Process*. In: Appadurai A. (ed) *The Social Life of Things: Commodities in Cultural Perspective*. Cambridge University Press