

# **Material and Other Antidotes for Consumerism**

**Jordan Nahm**

**33637508**

**Candidate 2021 MA Design: Expanded Practice**

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## ABSTRACT

It is the responsibility of the designer to determine how oblivious technology could comfortably interface with people. When design is cheap and/or careless it is unsurprising that people dispose of designs before they naturally wear out, a general apathy toward their environment. A change is necessary in design practice to motivate consumers to care more for their things; to respect objects. This essay outlines several strategies, drawing on material studies, aesthetics, and philosophy to ameliorate over-consumption and angst by interaction with the material world.

## INTRODUCTION

Materialistic has become a negative term to describe those who fawn over material possessions. It brings to mind the image of living in careless excess. However, this is not the case as even the poorest can value what humble material they do have. The distinction between consumerism and being materialistic is that the former is infatuation with acquisition and purchase while the latter concerns materiality as such. If anyone truly loved material they would do so unwaveringly. This pattern of purchase and neglect prompts a reassessment of what it is to be materialistic.

It is ironic that the impetus for sustainable practices in recent years has come while many have forgotten the value of wood, let alone any other materials. Many today still litter despite society's efforts, still discard their possessions without sufficient reason. As we rework our market practices to be more sustainable, designers must aim to entice users into lifelong romances with their things. At the level of design decision-making, sustainability can be approached without the unpredictable

ramifications of radical policy change. The habits of consumers are largely uncontrollable but designers can posit alternatives.

Currently there is an excess of junk in the world as a result of cheap mass production. Much of this production pales in comparison to artisanal products, which we typically cherish and keep for longer. This can be equated to an extended life cycle, which is a factor of sustainability. Indeed how much designers plan to prevent obsolescence is a virtue of how sustainably they design. Constantly replacing one's phone is not a sustainable policy but companies still entice consumers to swap phones annually in a positive feedback loop.

Here the imperative for designers to cooperate with craftspeople must be stressed. A do-it-yourself attitude is fortunately still inclement today and designers should channel the artisanal vocation into useful means. Directionless artisans will only produce further useless design, though their craftsmanship is virtuous because it embodies human character. Designers must harness this to produce effective and beautifully relatable designs that withstand time.

Design assimilates with the user to form a naturally arising system. So it follows that we should care about tools as pieces of ourselves. We often look at inanimate things through the lens of personification. When a tool is functioning properly we see no reason to replace it and it becomes our friend and ally. We tend to their needs like parents, going so far as to name and personalize them. When they break or malfunction we curse and bash them as if they were culpable to us.



Personification often dictates how we behave toward our things, but when character is lacking we quickly lose interest and respect.

We see human characteristics in objects through their behaviour, pareidolia (seeing faces in objects), and also through sympathizing with irregularities similar to our own imperfections. We relate to things better that exhibit intersecting traits with humans, and this can supply designs with enough dignity to escape discardment. Having a face is part of why we like humans and animals. Designers should learn from this and relate their creations to organisms as this relation also occurs with inanimate objects.



Fig. 1 - Legged Tray

Contrary to disposable possessions is the surplus value in antiques. While fleeting consumer goods are soon deemed fit for the trash, age appreciates even mundane possessions from the past. This is

due in part to the robustness which time and wear imbues as well as to their careful artisanal production. This the designer cannot produce without time, the craftsman, and the patient owner. Designers can and should plan for their creations to transition gracefully through life, appreciating with each new patination. This can prolong lifetime and thus improve the sustainability of a design through maintained value; quality over quantity.

## CRAFT TRADITION, PHILOSOPHY, AND THE AESTHETIC EXPERIENCE

The rationale behind antiques is called *Sabi* by the Japanese (Juniper 49). Age can be something to be embraced rather than refused in the endless search for perfection. Many today refuse to accept the reality of imperfection, antiques will never spawn from this perspective. Those possessions that become heirlooms are truly the most sustainable and perhaps the most beautiful.

The formal tradition of tea ceremony illustrates a love for matured objects. Tea ceremony has a legacy in feudal Japanese politics, helping to orchestrate the political unification of the nation preceding the Edo era. Today in the Japanese and Korean perspectives there remains a love of naturalness and the rustic lifestyle from which the artisan originated. In Japan worn utensils became poignant reminders of Zen themes like nothingness and finitude. In Korean ceramics there is a profound sadness and humility with which imperfect and simplistic designs were unabashedly conceived.



Fig. 2 - Dalhangari, or Moon Jar (The Metropolitan Museum of Art)

One of the originators of Japanese tea ceremony, Murata Juko, exceptionally illustrates the quality of *Wabi*, the companion term to *Sabi*, by his comment “the moon is never so lovely as when partially hidden by clouds” (Fujioka 16). These two qualities encompass Japan’s affinity for imperfection, rusticity, and impermanence. For Juko, the tea ceremony was a way for Japan to define its own aesthetic.

When feudal lords began appointing tea experts the sociocultural environment known as tea ceremony permitted ceramic to thrive as a sensuous aesthetic material. The usage of carefully selected implements enhanced the ceremony by instilling a sense of free and aimless contemplation upon the congregation at hand. No doubt the contemplation of Zen qualities permitted unique

pathways of discussion to emerge. Modern design can benefit from the further addition of aesthetics into the everyday.

Organic form is adopted whole-heartedly in Zen aesthetics and is also a founding principle for the *mingei*, or folk craft movement, of Japan. This 20th Century movement was formulated around traditional, often manual, folk craft. It advocated “objects [that] honestly fulfill the practical purpose for which they were made” as founder Yanagi Soetsu describes in his book *The Beauty of Everyday Things* (Yanagi 5). Such a value is paralleled by the modern minimalist movement in the West championed by figures like Dieter Rams in his design maxims. “Essentially it[, the object,] is easy to use and ready at hand”, Soetsu continues.

This perspective is in agreement with contemporary philosopher Martin Heidegger. The most successful design should be the one which is the best suited for the job. As mentioned in the introduction, tools cannot function without human direction, and this is where designers must decide the execution of technology. Still too often designers release glamorous demeanours wanting in functionality and vice versa. Beauty is readily present in an effective design just as it is in animal morphology evolved for purpose.

Design must have purpose, it is where we find its value. So as designers we mustn't choose an aesthetic style which contradicts purpose. Many designers take the approach of an artist, forgetting

their responsibility to fulfill a function in their vision, and in doing so produce rather art. The function of art is absolutely nothing, while for design it is absolutely something.

The aesthetic ideal of *mingei* is echoed by Arthur Schopenhauer who in his book, *The World as Will and Idea*, applauds antique pottery for having a more natural form while modern methods only achieve vulgar forms (Schopenhauer 179; vol. 3 ch. 35 On the Aesthetics of Architecture). It is as if the access afforded by modern means has spoiled our decision making as designers. Though convenient at stages, mechanical production of goods does not inherently produce proper design and designers should strive to maintain a human element in their creations as a means of being relatable.

In the same chapter as above, Schopenhauer demonstrates an appreciation for practicality in architecture which much agrees with *mingei* and its preference for sturdy bulkiness. *Mingei* can be described as a movement about reliability and embracing limitations. Such a mindset is equally valid now as it was at the inception of *mingei*, largely a response to rapid industrialization. Design is to be carried out through the path of least resistance. Only what is truly necessary will yield an effective and sustainable design. Once we acknowledge this we have only to exercise our sense of taste.

Owen Jones views decoration as a means of instilling a sense of repose. This aligns with both Immanuel Kant's and Schopenhauer's perspective on the aesthetic experience; a state free from

mechanical urges where the mind is permitted to wander freely (Schopenhauer 227; vol. 1 bk. 3 On the Object of Art). Goethe famously described architecture as *erstarrte Musik*: frozen music (Goethe and Eckermann 88). In his time Germans referred to architecture as *Baukunst*: literally Art and building in conjunction. Repose has become an instance few and far between in our preoccupied age. This contemplative state is crucial to progress, especially creative progress.

Jones' proposition 9 from *the Grammar of Ornament* states that "Those proportions will be the most beautiful which will be the most difficult for the eye to detect..." (Jones 5). He later explains how ratios such as 4:8, 3:6 are less stimulating than more indivisible ratios such as 5:8, 3:7. Incongruity stupefies the mind similarly to the ratios we see in nature and in music of higher degree of complication (Tyndall ch. VIII). In this way precious novelty is prolonged. Once we ascertain the rules behind a work of beauty we no longer see it with the same feeling of awe; both fear and surprise in the presence of something vastly grand and incomprehensible.

Arthur Schopenhauer expounds this in his book *The World as Will and Idea* where he explains how "the sight of an entirely strange town often makes a specially agreeable impression upon the traveller, which it by no means produces upon the inhabitant of it. For it arises from the fact that the former, being out of all relation to this town and its inhabitants, perceives it purely objectively" (Schopenhauer vol. 3 ch. 30 On The Pure Subject of Knowledge). So when we are perceiving a novel design, or anything else, we are much more indulgent in aesthetic contemplation and curiosity. It is important for designers to decorate in order to prolong inspective romance.

Schopenhauer claims in the same chapter as above that “the beauty of architecture arises from the unconcealed exhibition of the ends and attainment of them by the shortest and most natural path”. This describes great design as achieved from the so-called bones outward; biological in emergence. Proper design grows like an organism into the least but effective form, lest it be redundant. This is not beautiful, as is evidenced above, and therefore hinders attachment to design.

## **MATERIAL AND DECORATION**

Material informs usage as well as aesthetic deliberation by virtue of its properties. If we attempt to construct something in a material unfit for the task we will find that the project does not succeed without great and unnecessary effort. Conversely one finds conception much more accordant when working with the grain of a material. An aesthetic effect can even be achieved by material alone, and this is the fundamental aesthetic proposition of the essay. The naturally arising pattern is supreme.

Decoration is informed by material, whose structure of inscribed patterns; crystallographic, fibrous, etc. precede any additional decoration. Both Soetsu Yanagi and Owen Jones agree in their respective books that pattern is to be gleaned from nature and abstracted to ideal geometric forms. Otherwise, pattern would not harmonize with material. Jones criticizes Roman art and the twilight of Gothic art for utter imitation of nature as opposed to abstraction of ideal patterns (Jones 70).

Elsewhere in the same book Jones applauds Egyptian, Arabic, and Moresque decoration for their respective abstractions through technological and religious constraints. Limitations enabled these cultures to find appropriate decoration without realism. A stone rose makes for a lousy substitute, no matter the accuracy it only serves to undermine the material. Sculpture readily encounters this embarrassing phenomenon, but it is amusing how many sculptures from antiquity appreciated in aesthetic value after losing finish and extremities over time.



Fig. 3 - Raku Capsicum Teacups

A teacup was designed as an example of modeling after nature. It is molded in the shape of a capsicum specimen selected for its ideally balanced form. Casting produced precise copies of the original subject, the vegetal body now modified to afford drinking. The finish supplied by reduction firing leaves a unique carburization, reserved yet lively under closer inspection. Through such kiln effects nature can be given responsibility to personalize each unit. It is believed that this and other such processes can ameliorate consumerism as owners can grow attached to their specific iteration.



There are few better materials for 3D modelling than clay because it complies effortlessly to sculpting. Even as a novice prior to an extended study, it is readily evident that clay is expressive in form and texture and even more so with the application of glazes. Imbuing a natural or human effect through fluid glazes is easily achieved. Explorative artisans have pushed this earthy material to phenomenal directions so designers have many choices at hand.

Terracotta was implemented in several projects because of its rich colour and its natural porosity which insulates against sound, heat, and electricity. Structural analysis reveals that clay has potential in larger projects such as furniture or in architecture. It also suits kitchen environments as well, owing to its hard surface and inertness. Ceramics hold fast against compressive forces. Their primary weakness is tension due to ever-present microflaws fracturing when pulled apart.

During an extended study period ceramicist Grace McCarthy was interviewed. Questions were issued to her regarding digital fabrication of ceramics. Grace responded nonchalantly that methods such as 3D printing were “just another way of doing it”. She described works by other ceramicists who printed forms and then altered them manually afterward. It seems that digital methods are at odds with the sculptural and human qualities possible in ceramics.

Ceramic printing has been investigated for practicality but the possible forms proved to be constrained. It is fraught with technical issues and it is tedious to produce just one pot. This

method has been judged as suitable mostly for precise details or reproduction. It largely detracts from the relatable quality of hand-molding and is not much easier.

## THE NECESSITY FOR AND PURPOSE OF DECORATION

A richly sensuous design permits a longer period of digestion for the consumer. It is difficult to first begin filling design with decoration, and one can easily over-fill in doing so. Owen Jones affirms in proposition 5 of his book *The Grammar of Ornament* that “Construction should be decorated”, before reminding that “decoration should never be purposely constructed”. In summation one must decorate designs, but construction remains the principal cause.

Jones believes decoration should symbolize. In his criticism of the ancient Greeks he claims that their architectural decorations, though beautiful, were “meaningless, purely decorative, never representative” (Jones 33). While this point may be contentious, there is truth here about the frivolity of aimless trappings. In Roman decoration Jones argues that there is a pointlessness to the application of patterns such as the acanthus which is strewn about liberally and arbitrarily in this culture.

Acanthus is a borrowed decoration from the Greeks, and Vitruvius relates the amusing story of its origin by Callimachus in *De Architectura* (Vitruvius Pollio bk. 4). Vitruvius explains how acanthus was observed growing beneath baskets on graves, folding delicately at the stones that covered said

baskets. The use of it atop Corinthian pillars bestows them with effortlessness whereas in relief work this effect is lost.



Fig. 4 - Illustration of Acanthus Growing at a Gravesite (Putnam 104)

In this way decoration functions in a psychological sense, deliberately portraying weightlessness in the structure. Jones argues that Corinthian pillars are lesser to Egyptian pillars however, as the former is additive while the latter is decorative construction. Decorative design is less redundant than decorated design and hence more beautiful.

Artisans throughout history have synthesized patterns from nature, forming the cornerstone of culture in cooperation with local materials. Seeing the will of nature in foliage, wood, stone, etc. inspired the artisan and viewer alike, despite the humility of these inspirations. Insights about growth, formation, order, and flux can be found in many materials. Their unfaltering natures are a source of repose in themselves.

With this development, it is important also to discuss the negation of decoration. Misplaced decoration is tiring to our limited faculties. Designers must infer where decoration is necessary and thereby direct the user's eye. A vase for example mustn't compete with its contents for the favor of the eye, rather its duty is to provide a modest background and support for flora. The below example demonstrates this while playfully concealing further aesthetic value in the inner glaze.



Fig. 5 - Raku Vase

The function of decoration can be summarized by the following quote from Schopenhauer: “The more we concentrate on the object, the less we concentrate on the subject” (Schopenhauer vol. 3 bk. 3 ch. 30 On The Pure Subject of Knowledge). For contemplation to occur we must begin “quieting the circulation and calming the passions”. Schopenhauer relates that “all things appear the more beautiful the more we are conscious merely of them, and the less we are conscious of ourselves”, ourselves being our tiresome willful urges. This is repose.

## THE DISRUPTIONS LATENT IN MODERN ENVIRONMENTS

In earlier sections the notion of excessive visual detail was discussed. In modern environments of work and relaxation we are also often subject to auditory and optical noise. Attention requires effort, and so this excess of stimulus expedites our fatigue without our knowing. Hearing is perhaps the best example. It comes as no surprise that metropolitan citizens are likely to suffer minor tinnitus and hearing loss as a result of their sonic environment, while someone in the countryside hardly encounters any of this irritation and is said to lead a more peaceful lifestyle.

City dwellers have grown accustomed to dismissing these interruptions resulting from careless design. Hearing a conversation or obstructive noise drastically impacts the ability to perform cognitive work. One can observe Schopenhauer’s essay “On Noise” for a colourful description of how discordant noise can be to the mind at work. Sensory disruptions can be likened to poor decoration, disabling any repose. Researchers at the University of Maryland have recently affirmed

this by identifying a limit in our perception of no more than one conversation (Brodbeck 14). This is plain to anyone who realizes that hearing, unlike sight, is unconditional by default.

When startled by a sudden siren or other disturbance we experience an immediate nervous impulse, stressing us to respond somehow. Such disruptions cause undue anxiety and worsened performance of activities. As we begin to redefine the areas we call workspaces, it is important to maintain a work atmosphere free from interruption. One solution is to seclude a space or target a specific source of disruption such as windows. Ideally this solution would prevent sound while still permitting the passage of light.

A Jaali is a type of window peculiar to regions such as Northern India and nearby. It is a large sheet of stone that has a pattern of holes meticulously cut into it. The Jaali blocks glaring sunlight and heat while cooling the space by compressing air through the narrow holes. Air circulation is thereby permitted and enough sunlight can be supplied by effective ratios of void to material. Ceramics and concrete are perfect choices for a Jaali due to their ability to insulate sound and thermal energy while being easily manufacturable. Uniform tiles can be made using the analysis from research titled *Stone Jaali: Daylight Performance Analysis* (Ghandi).

In order to prevent sound waves from entering the Jaali through the holes, their size must be small enough to prevent audible wavelengths from transmitting (Purves et al.).

Speed of Sound in air,  $c = \lambda f = 330 \text{ m/s}$

$\lambda = \frac{330 \text{ m/s}}{f}$  where  $f = 20\,000 \text{ Hz}$ ; the approximate upper limit of human hearing

$$\therefore \lambda = 0.0165 \text{ m}$$

These holes are most effective at reducing glare and circulating air when their radii equal the depth of the partition. An advised ratio of 40:60 was applied for the void-material concentration as to provide maximal sunlight allowance without glare. The pattern employed is tileable and cascades downward diagonally.

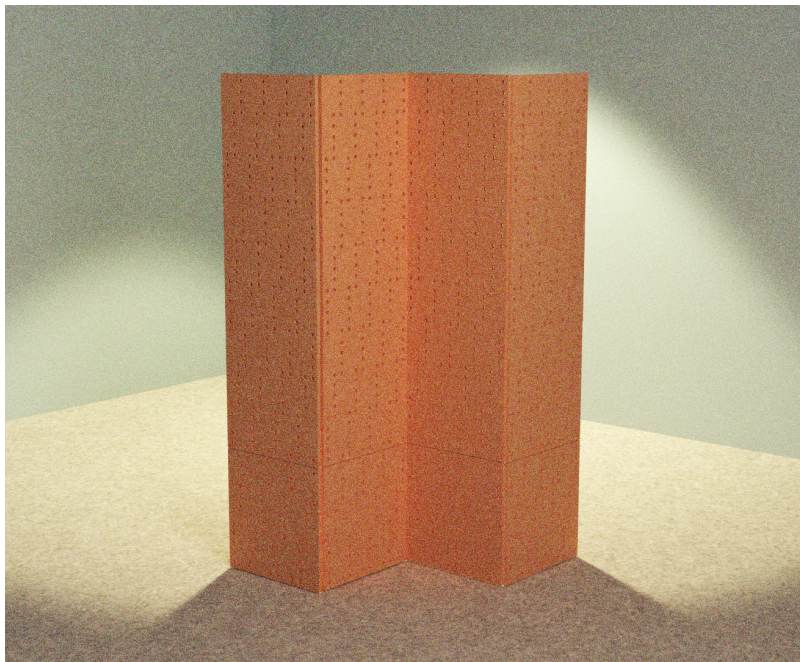


Fig. 6 - Render of Jaali Partition

Another remedy for auditory disruption takes the form of a competitive sound to the intrusive noise. Man-made speakers are largely unidirectional. A distributed mode loudspeaker (DML) on

the contrary emits sound through vibrating a thin suspended profile which transfers sound to the air as pressure waves in all directions.

It is because of this near omni-directionality that a DML prototype was designed. This and the thin profile of the design makes the DML a welcome solution for supplying sonic environments. DML technology purportedly fills a room with sound more thoroughly than piston monitors and therefore it would better counter any encroaching noise (Hawksford 6).

This prediction is based on the fact that harmonic waves are summative throughout the field of their action as a Fourier series. John Tyndall describes this phenomenon in his compiled lectures on Sound (Tyndall ch. VII). Sound can be cancelled by an utterly opposite emission, though either signal on its own would still be audible. In a sonic environment supplied by a DML sound waves are supplied toward every extremity of the room prior to reflection and potential loss thereby.

This concept is employed in noise-canceling headphones that actively hear and undo the oncoming sound waves by supplying counteractive frequencies. This is possible because of their close proximity to the ear. In a room we must rely on arbitrary music/sound waves within the space to engage in dissonance with the unwanted disturbances.





Fig. 7 - DML Speaker

Spruce was selected for the DML soundboard as it is one of the premier choices for luthiers. The rectangular shape was chosen to prevent symmetric resonant modes and to permit transference of larger wavelengths. It is a beautiful material, more so when finished with tung oil. The board is suspended by criss-crossing nylon cords which support it without rigid contact. This supplies an angular pattern to contrast the wood grain and rounded edges of the board. The simple frame is fashioned from steel rod bent to a 1st degree 3D Hilbert Curve and welded with washers. The exposed MIG weldments will gracefully corrode and offer more visual stimulus with time. So the aesthetic furbishing for this project arose with little extra effort.

## LIGHT QUALITY

Today our eyes are more exhausted than they have ever been. Blue light is responsible for exciting the body to produce cortisol, the means by which it solicits our focus and attention (Choi et al.).

Conversely red light causes us to produce melatonin which tells us to rest. One possible escape from this cycle comes from the band between red and blue light, i.e. green light. This light does not elicit so much of a biological response in us as the signals of red and blue, and therefore permits a more neutral state free from attention and drowsiness (Kritz).

In recent times a low value, low saturation green has been applied to infrastructure exteriors like electrical transformers, and famously at Disney attraction destinations under the trade name “go away green”, to keep passers-by from acknowledging these things. It is camouflage for the civilized environment. Green is in a special sweet spot that can warrant dismissal. Thus it is reasonable to claim that green light should be more favourable in spaces of relaxation and repose.

Whereas task lighting requires clear and precise quality, places of repose have less stringent requirements. The motive behind the iconic green shade of *Emeralite* banker’s lamps was to promote a milder lighting environment, not one of rest but rather one that was less demanding of the eyes. The designers at the time had not the evidence to reinforce this claim; though they were surprisingly intuitive in their decision. They understood the strain brought on by incandescent lamps and tried to reduce this by shrouding the source in green.

In earlier sections the historical use of natural patterns was remarked on. Accordingly it appears that the mind is least elicited when the eye is in green light. It is as if forest foliage still provides us with archaic peace. This partly explains the efficacy of nature therapy such as walks in the park, as

Dr. Bing Liao suggests (Pierce). Therefore we should apply this reality to lighting peaceful indoor spaces. This can easily be achieved by designing light shades.

Paper is surprisingly flexible in the realm of design and can easily be applied to create a diffuse shade. Soetsu comments how “People these days waste a tremendous amount of paper... it might be more correctly said that perception of good paper as a precious commodity has dwindled”. Origami artist Tomoko Fuse has written a book detailing how to construct systems of origami units. This strategy is an effective means of turning paper into 3D designs.



Fig. 8 - Green Unit Origami Lamp Shade

Responsible designers should prevent direct views of light sources just as we avoid looking into natural sources like the sun. Today LEDs are the prevailing artificial source, and their concentrated point of emission is irritating to glimpse. Designer Jordi Canudas expressed in an interview that LEDs would undoubtedly be the future of lighting, he explains that “the technology has made lighting more environmentally conscious”, and it continues to improve even today.

While discussing the overwhelming nature of LEDs, Canudas stated that “... a little light is better”. The conversation then moved on to how sources can be concealed without noticeable loss in efficacy. One solution comes from the fact that light is capable of bouncing a theoretically infinite number of times, this is the phenomenon at work behind fiber optics. This can be leveraged to deliver light along a directed path. LEDs emit light unidirectionally, and so this makes directing their emission through some controlled path a suitable proposal.

To demonstrate this, a sculptural table lamp was constructed that supplies light periscopically through a hollow body. This design conceals the source while lighting a table. The columnar form of the design occupies little desk space and has, because of its material, a humble earthiness. The electronics are simply installed and a reflective glaze can increase the amount of reflected light. This form can be made using slab techniques or by casting. The heat generated by the LEDs is primarily transferred through a heat sink mount. Such a design can be improved further by the addition of green pigment to the internal glaze.



Fig. 9 - Plaster Prototype Lamp

## CONCLUSION

Many materials are both suitable and commensurate with much of the modern demands in life.

When design is undertaken honestly and in the interest of the user it yields lasting results and solves problems, leaving no reason for it to be neglected. Ceramic has a lot of potential for 3D construction, and further endeavours will be made into its applications in furniture, lighting, and kitchenware. Much research was conducted on flameware applications for clay, though the available facilities and materials could not be readily assembled in time.

Methods of paper folding like unit origami can be applied to other materials such as sheet metal, and so further investigation is warranted. Finally, the DML proved to be a capable alternative to

regular monitors. A larger version would have better bass capabilities and so this is the next logical step. The ultimate ambition is to create things with such craftsmanship that users become attached to them for as long as possible.

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