William Morris, Arts and Crafts, and the Idea of Eco-Socialist Design

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it was 'not apt to prompt thoughts about prolonged preservation'.[22] Yet 'prolonged preservation' was exactly what Morris began to aim at with his Kelmscott Press books.

22
Elizabeth Eisenstein, *The Printing Revolution in Early Modern Europe*, 2nd ed. (Cambridge: Cambridge University Press, 2005), p. 88.

Superabundance and Obsolescence

In his 1892 essay 'Some Thoughts on the Ornamented Manuscripts of the Middle Ages', Morris bemoaned 'the present age of superabundance of books', and 'the utilitarian production of makeshifts', which 'has swept away the book producer in its current'.[23] Morris has often been accused of elitism, for being a socialist who seemingly prefers books to be rare and artistic rather than cheap and abundant, but notice that it is not the abundance of books that bothers him but the 'superabundance'. His emphasis on 'superabundance' echoes the *Communist Manifesto*'s disgust at the absurd 'epidemic of overproduction' that characterizes capitalist modernity: the waste, glut, and superfluity that run next to poverty and privation.[24] This paradoxical connection between overabundance and want, which Marx and Engels saw as a key feature of capitalism, suggests that deprivation does not result from scarcity but from distribution. For Morris, more cheap books and more cheap goods will not balance the ledger of social equality; an entirely new system is required. This was a central concern of Morris's work. In his novel *A Dream of John Ball*,[25] for example, which was originally serialized in Morris's socialist newspaper and later published in a Kelmscott edition, the narrator travels back in time to the fourteenth century and tries to describe the economic conditions of late-nineteenth-century England. His medieval peasant listener is confused by the horrific idea that 'times of plenty shall in those days

23
William Morris, 'Some Thoughts on the Ornamented Manuscripts of the Middle Ages', in Morris, *The Ideal Book*, p. 1.

24
Karl Marx and Friedrich Engels, *The Communist Manifesto*, 1848, in Marx, *Selected Writings*, ed. Lawrence H. Simon (Indianapolis: Hackett, 1994), p. 163.

25

E. Burne-Jones, artwork for the first book edition of William Morris's *A Dream of John Ball*, 1888.

William Morris, p. 34

be the times of famine'.[26] In Morris's 1891 romance *The Story of the Glittering Plain*, which was also produced in a Kelmscott edition, the titular fantasy land is supposedly a place of superabundance and 'pleasure without cease'—not unlike the department stores that had begun to appear in late-Victorian cities—yet Morris's narrative unmasks it as a corrupt place, a 'land of lies'.[27]

Morris's loathing of mass-produced objects may have begun as a reaction against their ugliness, but in his late work he is more alert to the ethical problems associated with their production as well as their wasteful consumption. He is not alone, of course, in conceptualizing waste as a key component of capitalism: as twentieth-century industrial designer Brooks Stevens famously established by using the term 'planned obsolescence', if a product is not sufficiently transient—in design, function, or performance—people will have no reason to buy another a few years down the road.[28] As a book designer, Morris worked along opposite lines. Many critics have noted the neo-medieval aesthetic of the Kelmscott books, but Morris's goal was actually to 'move out of the historical style, particularly the eclecticism that characterized the Victorian age, into a more ahistorical style'.[29] He drew on older forms in an effort to evoke a kind of temporal neutrality. The types that he designed for Kelmscott, for example, were meant to be 'pure in form', without excessive protuberances.[30] His goal—unmet, perhaps—was to create a durable, timeless style.

Obsolescence in all its forms is, by contrast, key to capitalist models of consumption. Bernard London's 1932 pamphlet *Ending the Depression through Planned Obsolescence* promoted obsolescence as a means of artificially stimulating consumption, thereby stimulating the demand for labour.[31] As London noted, workers appear to *need* overconsumption to protect employment,

26
William Morris, *A Dream of John Ball*, in *Three Works By William Morris*, ed. A.L. Morton (New York: International Publishers, 1986), p. 100.

27
William Morris, *The Story of the Glittering Plain or the Land of Living Men*, facsimile of the 1894 Kelmscott edition (New York: Dover, 1987), pp. 99–100.

28
For more on Brooks Stevens, see Glenn Adamson, *Industrial Strength Design: How Brooks Stevens Shaped Your World* (Boston: MIT Press, 2003).

29
Stansky, *Redesigning the World*, p. 45.

30
Dreyfus, 'William Morris', p. 78.

31
Slade, *Made to Break*, p. 75. Slade notes that this pamphlet was published twenty years before Brooks Stevens claimed to have invented the term 'planned obsolescence'.

but Morris saw this as a waste of labour as well as a waste of material. His lecture 'Art under Plutocracy' challenges the assumption that all labour is necessarily a good regardless of what it produces:

> This doctrine of the sole aim of manufacture (or indeed of life) being the profit of the capitalist and the occupation of the workman, is held, I say, by almost every one; its corollary is, that labour is necessarily unlimited, and that to attempt to limit it is not so much foolish as wicked, whatever misery may be caused to the community by the manufacture and sale of the wares made.[32]

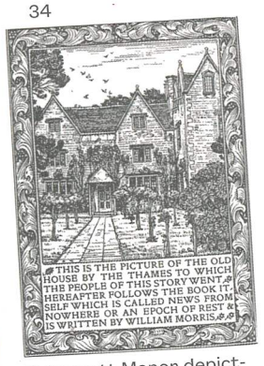
Morris concluded, in fact, 'the very essence of competitive commerce is waste'.[33] In a better world, workers' livelihood would not depend upon overconsumption, waste, and overwork.

32
William Morris, 'Art under Plutocracy', in *Political Writings of William Morris*, ed. A.L. Morton (New York: International Publishers, 1973), p. 74.

33
Ibid., p. 80.

News from Nowhere

Morris depicted such a better world in his 1890 utopian novel *News from Nowhere*,[34] which envisions a future socialist society where nothing is wasted yet nothing is wanted. Of course this is a fantasy, written in a fantasy novel, yet it reminds us that consumer capitalism also depends on a fantasy of waste—an opposite fantasy that de-emphasizes the longevity of objects and the material problem of garbage. Morris's socialist utopia calls attention to this capitalist fantasy by depicting a future society where things do not simply disappear when discarded: objects endure, and people expect them to endure. The future society of Nowhere has overcome environmental pollution and overproduction

34


Kelmscott Manor depicted in the frontispiece to the Kelmscott Press edition of William Morris's *News from Nowhere*, 1893.

by thoroughly internalizing the values of craft, durability, and preservation—central values of the Kelmscott Press. Achieving such a balance requires a resistance to novelty as well as a commitment to making objects that bear conserving. In one illustrative scene, William Guest, a visitor from the nineteenth-century past, goes 'shopping' for a new pipe. Morris counters the inevitable objection to 'communist shopping'—that if all goods are free, people will be wasteful—by depicting the residents of Nowhere as frugal preservationists who expect everything they use to be a durable form of art. When Guest is offered a beautiful pipe from a young shop-girl, he initially demurs, fearing the pipe is too valuable for his own use: 'Dear me ... this is altogether too grand for me... Besides, I shall lose it—I always lose my pipes.' The shop-girl responds, 'What will it matter if you do? Somebody is sure to find it, and he will use it, and you can get another.'[35] In Nowhere, a pipe does not magically disappear: it is picked up by someone else who will dust it off and use it. In a society without private property, where ownership is not a measure of self-worth, used goods and old goods do not lose their appeal. Morris offers a vision of a future where the lines between 'trash' and 'treasure' are blurred as a consequence of communal life.

Morris's utopian pipe is an attack on the neophilia, or love of the new, which is an engrained feature of consumer capitalism. Those critics who fault Morris for drawing on the medieval past in creating his utopian vision, rather than creating an altogether *new* world, are perhaps missing a key point of Morris's design philosophy: innovation for the sake of innovation is a market culture value, and Morris's aesthetic task was to subvert, not uphold, such values. One character in *News from Nowhere* articulates this purpose quite clearly in a description of nineteenth-century capitalism as

35
William Morris, *News from Nowhere* (1890), ed. Stephen Arata (Peterborough: Broadview, 2003), p. 86.

> the ceaseless endeavour to expend the least amount of labour on any article made, and yet at the same time to make as many articles as possible. To this 'cheapening of production', as it was called, everything was sacrificed: the happiness of the workman at his work, nay, his most elementary comfort and bare health, his food, his clothes, his dwelling, his leisure, his amusement, his education—his, life, in short—did not weigh a grain of sand in the balance against this dire necessity of 'cheap production' of things, a great part of which were not worth producing at all.[36]

36
Morris, *News from Nowhere*, pp. 138-39.

Such 'cheap production' contrasts sharply with the production practices underlying Kelmscott Press, and *News from Nowhere*, which itself appeared in a Kelmscott edition, demonstrates how such an apparently luxurious enterprise can actually model crucial socialist ideals: durability and sustainability.

Preservation and Persistence

Morris's penchant for durability and preservation is also evident in his active history with the Society for the Protection of Ancient Buildings, familiarly known as the 'Anti-Scrape' Society, which he founded in 1877 and remained involved in until his death in 1896. His work in establishing this society was simultaneous with his increasing involvement in leftist politics, culminating in a conversion to socialism in the early 1880s. The concurrence was not accidental. As E.P. Thompson notes in discussing Morris's rage at the possible destruction of a beautiful, old Berkshire barn: 'It may seem an unlikely road to Communism by way of Great Coxwell Barn' yet 'Morris's work for the Anti-Scrape contributed as much to bring him on the final stages of his journey as any other influence' because it 'deepened his insight into the destructive philistinism of capitalist society'.[37] Morris's perseverance in preserving old buildings went hand-in-hand with his commitment to common wealth and shared public good over and above individual property. The very idea of the Anti-Scrape Society was infused with a respect for the workers who had produced the buildings in the first place, as well as the materials and labour that made them, and Morris's work for the society also bespeaks his dedication to preservation as a form of historical memory. The responsibility for objects, as this suggests, lies in their production as well as in their use and preservation.

37
E.P. Thompson, *William Morris: Romantic to Revolutionary* (New York: Pantheon, 1955), p. 233.

Morris's writing as well as his design calls our attention to material persistence and to the limitations of a capitalist conception of waste as that which readily disappears. Still, a central tension endures in Morris's work regarding the accessibility of sustainable goods, for Morris was not able to democratize durability, and the Kelmscott Press is perhaps the most obvious instance of this since the books have remained extremely expensive into the twenty-first century. Kelmscott allowed Morris to make a point, however, that could not be made by way of cheap print: that waste is a problem of production, that longevity and disposability must be taken into account at the genesis of an object's life, not just the end. In capitalism, waste disposal has traditionally been viewed as the provenance of the consumer rather than the producer, and environmental measures have long emphasized responsible consumption while ignoring responsible production.[38] Today, 'cleaner production' and 'cradle-to-cradle' design are recognized as key environmental measures, but Morris's analysis of waste suggests that this kind of thinking was already

38
Only in 1989 did the United Nations Environmental Programme launch its 'Cleaner Production' initiative, in an effort to generate 'a preventative approach to environmental management.' United Nations Environmental Programme, Sustainable Consumption and Production Branch, 'Understanding Cleaner Production', www.unep.fr/scp/cp/understanding.

germinating in his nineteenth-century critique of capitalist production. Morris offers a vision of production in which an object's future life, in all its half-lives, is of more concern than the scale and speed of its manufacture. For this reason, the Kelmscott Press articulates a central premise of Morris's socialism in modelling a form of production grounded in beauty, materials, durability, and good labour practices, even for that most utilitarian of arts—bookmaking. It was not enough for Morris to imbue household objects with the aura of artistic creation, as he did in his work for Morris & Co.; he brought this aura to the sphere of print, too, to demonstrate that even an area of production thought to be essentially indifferent to beauty and craftsmanship could be transformed with a new approach to labour and materials and with an eye toward future duration.

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A Political Education
The Historical Legacy of the German Bauhaus and the Moscow VKhUTEMAS

Éva Forgács

coalfields of South Yorkshire and Nottingham, and in the case of Standard with the mergers (sponsored by a Labour government) which led to the formation of British Leyland as a combine large enough to compete for markets with the giant American-owned and European firms.

Industry is not dominated by technical expertise, but by the sales manager, the accountant and the financial tycoon who never made anything in their lives except money.

For a lucky few work is enjoyable for its own sake, but the proportion of such people in the total working population grows smaller as work becomes either more mechanised or more fragmented. Automation, which was expected to reduce the sheer drudgery of manual labour and the sheer mental drudgery of clerical work, is feared because in practice it simply reduces the number of income-gaining opportunities. It is a saving of labour, not by the worker, but by the owners or controllers of capital. The lucky few are destined for the jobs which are either created by or are unaffected by automation. The unlucky majority, condemned from childhood to the dreary jobs, find them either diminished or extinguished by the 'rationalisation' of work.

Can we imagine that, in a situation where the control of an industry, a factory, any kind of workplace, was in the hands of the people who work there, they would just carry on production, distribution and bottle-washing in the ways we are familiar with today? Even within capitalist society (though not within the 'public sector' which belongs to 'the people') some employers find that what they call job enlargement or job enrichment—the replacement of conveyor belt tasks by complete assembly jobs, or deliberate rotation from job to job in the production process—can increase production simply by reducing boredom. When everyone in an industry has a voice in it, would they stop at this point?

In his brilliant essay 'Work and Surplus,' Keith Paton imagines what would happen in a car factory taken over permanently by its workers. "After the carnival of revolution come the appeals to return to work" but "to get into the habit of responding to orders or exhortations to raise the GNP would be to sell the pass straight away. On the other hand production must eventually

be got going on *some* basis or other. What basis? Return to *what sort of work?*"

> So instead of restarting the assembly track (if the young workers haven't already smashed it) they spend two months discussing the point of their work, and how to rearrange it. Private cars? Why do people always want to go somewhere else? Is it because where they are is so intolerable? And what part did the automobile play in making the need to escape? What about day to day convenience? Is being stuck in a traffic jam convenient? What about the cost to the country? Bugger the 'cost to the country,' that's just the same crap as the national interest. Have you seen the faces of old people as they try to cross a busy main road? What about the inconvenience to pedestrians? What's the reason for buying a car? Is it just wanting to *have* it? Do we think the value of a car rubs off on us? But that's the wrong way round. Does having a car really save time? What's the average hours worked in manufacturing industry? Let's look it up in the library: 45.7 hours work a week. What's the amount of the family's spending money in a week that goes on cars? 10.3 per cent of all family income. Which means more like 20 per cent if you've got a car because half of us don't have one. What's 25 per cent of 45 hours? Christ, 9 hours! That's a hell of a long time spent 'saving time'! There must be a better way of getting from A to B. By bus? Okay, let's make buses. But what about the pollution and that? What about those electric cars they showed on the telly once? Etc., etc.[10]

He envisages another month of discussion and research in complexly cross-cutting groups, until the workers reach a consensus for eventual self-redeployment for making products which the workers consider to be socially useful. These include car refurbishing (to increase the use-value of models already on the road), buses, overhead monorail cars, electric cars and scooters, white bicycles for communal use (as devised by the Amsterdam provos), housing units, minimal work for drop-outs, and for kids and old people who like to make themselves useful.

But he sees other aspects of the workers' take-over, voluntary extra work for example: "As work becomes more and more pleasurable, as technology and society develop to allow more and more craft aspects to return at high technological level, the idea of *voluntary extra* over the (reduced) fixed working week becomes feasible. Even the fixing of the working week becomes superseded." The purpose of this voluntary extra? "New Delhi needs buses, provide them by voluntary work."[11]

The factory itself is open to the community, including children; "thus every factory worker is a potential 'environmental studies' instructor, if a child comes up and asks him how something works." The factory in fact becomes a university, an institute of learning rather than of enforced stupidity, "using men to a millionth of their capacities" as Norbert Weiner put it.

The evolution and transformation of the factory envisaged by Keith Paton leads us back to the idea of the Community Workshop envisaged in the previous chapter. We tend to think of the motor industry, for example, as one in which iron ore comes in at one end and a complete car rolls out at the other (though the purchaser of a 'Friday car' in today's society had better watch out, for that car rolled off the assembly line when the workers were waiting for their real life at the weekend to begin). But in fact two thirds of the factory value of a car is represented by components bought by the manufacturers from outside suppliers. The motor industry, like many others, is an *assembly* industry. The fact that this is so of most consumer goods industries, coupled with the modern facts of widely distributed industrial skill and motive power, means that, as the Goodman brothers said in *Communitas*: "In large areas of our operation, we could go back to old-fashioned domestic industry with perhaps even a gain in efficiency, for small power is everywhere available, small machines are cheap and ingenious, and there are easy means to collect machined parts and centrally assemble them."[12] But it also means that we could *locally* assemble them. It already happens on the individual spare-time level. Build-it-yourself radio, record-playing, and television kits are a commonplace, and you can also buy assemble-it-yourself cars and refrigerators.

Groups of community workshops could combine for bulk ordering of components, or for sharing according to their capacity the production of components for mutual exchange and for local assembly. The new industrial field of plastics (assuming that in a transformed future society, people find it a genuine economy to use them) offer many unexploited possibilities for the community workshop. There are three main kinds of plastics today: thermosetting resins which are moulded under heat with very high pressures and consequently require plant which is at present expensive and complex; thermoplastics, which are shaped by extrusion and by injection moulding (there are already do-it-yourself electric thermoplastic injection machines on the market); and polyester resins, used in conjunction with reinforcing materials like glass fibre which can be moulded at low pressures by simple contact moulding, and are thus eminently suitable for the potentialities of the community workshop.

As we are frequently reminded by our own experience as consumers, industrial products in our society are built for a limited life as well as for an early obsolescence. The products which are available for purchase are not the products which we would prefer to have. In a worker-controlled society it would not be worth the workers' while to produce articles with a deliberately limited life, nor to make things which were unrepairable. Products would have *transparency of operation and repair*. When Henry Ford first marketed his Model T he aimed at a product which "any hick up a dirt road" could repair with a hammer and a spanner. He nearly bankrupted his firm in the process, but this is precisely the kind of product which an anarchist society would need: objects whose functioning is transparent and whose repair can be undertaken readily and simply by the user.

In his book *The Worker in an Affluent Society*, Ferdynand Zweig makes the entertaining observation that "quite often the worker comes to work on Monday worn out from his weekend activities, especially from 'Do-it-yourself.' Quite a number said that the weekend is the most trying and exacting period of the whole week, and Monday morning in the factory, in comparison, is relaxing."[13] This leads us to ask—not in the future, but in our present society—what *is* work and what *is* leisure if we

work harder in our leisure than at our work? The fact that one of these jobs is paid and the other is not seems almost fortuitous. And this in turn leads us to a further question. The paradoxes of contemporary capitalism mean that there are vast numbers of what one American economist calls *no-people*: the army of the unemployed who are either unwanted by, or who consciously reject, the meaningless mechanised slavery of contemporary industrial production. Could they make a livelihood for themselves today in the community workshop? If the workshop is conceived merely as a social service for 'creative leisure' the answer is that it would probably be against the rules. Members might complain that so-and-so was abusing the facilities provided by using them 'commercially.' But if the workshop were conceived on more imaginative lines than any existing venture of this kind, its potentialities could become a source of livelihood in the truest sense. In several of the New Towns in Britain, for example, it has been found necessary and desirable to build groups of small workshops for individuals and small businesses engaged in such work as repairing electrical equipment or car bodies, woodworking and the manufacture of small components. The Community Workshop would be enhanced by its cluster of separate workplaces for 'gainful' work. Couldn't the workshop become the community *factory*, providing work or a place for work for anyone in the locality who wanted to work that way, not as an optional extra to the economy of the affluent society which rejects an increasing proportion of its members, but as one of the prerequisites of the worker-controlled economy of the future?

Keith Paton again, in a far-sighted pamphlet addressed to members of the Claimants' Union, urged them not to compete for meaningless jobs in the economy which has thrown them out as redundant, but to use their skills to serve their own community. (One of the characteristics of the affluent world is that it denies its poor the opportunity to feed, clothe, or house *themselves*, or to meet their own and their families' needs, except from grudgingly doled-out welfare payments.) He explains that:

> When we talk of 'doing our own thing' we are not advocating going back to doing everything by hand. This would

> have been the only option in the thirties. But since then electrical power and 'affluence' have brought a spread of *intermediate* machines, some of them very sophisticated, to ordinary working class communities. Even if they do not own them (as many claimants do not) the possibility exists of borrowing them from neighbours, relatives, ex-workmates. Knitting and sewing machines, power tools and other do-it-yourself equipment comes in this category. Garages can be converted into little workshops, home-brew kits are popular, parts and machinery can be taken from old cars and other gadgets. If they saw their opportunity, trained metallurgists and mechanics could get into advanced scrap technology, recycling the metal wastes of the consumer society for things which could be used again regardless of whether they would fetch anything in a shop. Many hobby enthusiasts could begin to see their interests in a new light.[14]

"We do," he affirms, "*need* each other and the enormous pool of energy and morale that lies untapped in every ghetto, city district and estate." The funny thing is that when we discuss the question of work from an anarchist point of view, the first question people ask is: What would you do about the lazy man, the man who will not work? The only possible answer is that we have all been supporting him for centuries. The problem that faces every individual and every society is quite different, it is how to provide people with the opportunity they yearn for: the chance to be useful.

THE 3D ADDITIVIST MANIFESTO

Morehshin Allahyari and Daniel Rourke

THE 3D ADDITIVIST MANIFESTO

Derived from petrochemicals boiled into being from the black oil of a trillion ancient bacterioles, the plastic used in 3D Additive manufacturing is a metaphor before it has even been layered into shape. Its potential belies the complications of its history: that matter is the sum and prolongation of our ancestry; that creativity is brutal, sensual, rude, coarse, and cruel.[1] We declare that the world's splendour has been enriched by a new beauty: the beauty of crap, kipple[2] and detritus. A planet crystallised with great plastic tendrils like serpents with pixelated breath[3] … for a revolution that runs on disposable armaments is more desirable than the contents of Edward Snowden's briefcase; more breathtaking than The United Nations Legislative Series.

There is nothing which our infatuated race would desire to see more than the fertile union between a man and an Analytical Engine. Yet humankind are the antediluvian prototypes of a far vaster Creation.[4] The whole of humankind can be understood as a biological medium, of which synthetic technology is but one modality. Thought and Life both have been thoroughly dispersed on the winds of information.[5] Our power and intelligence do not belong specifically to us, but to all matter.[6] Our technologies are the sex organs of material speculation. Any attempt to understand these occurrences is blocked by our own anthropomorphism.[7] In order to proceed, therefore, one has to birth posthuman machines, a fantasmagoric and unrepresentable repertoire of actual re-embodiments of the most hybrid kinds.[8]

Additivism will be instrumental in accelerating the emergence and encounter with The Radical Outside.[9]

Additivism can emancipate us.

Additivism will eradicate us.

We want to encourage, interfere, and reverse-engineer the possibilities encoded into the censored, the invisible, and the radical notion of the 3D printer itself. To endow the printer with the faculties of plastic: condensing imagination within material

reality.[10] The 3D print then becomes a symptom of a systemic malady. An aesthetics of exaptation,[11] with the peculiar beauty to be found in reiteration; in making a mesh.[12] This is where cruelty and creativity are reconciled: in the appropriation of all planetary matter to innovate on biological prototypes.[13]
From the purest thermoplastic, from the cleanest photopolymer, and shiniest sintered metals we propose to forge anarchy, revolt and distemper.
Let us birth disarray from its digital chamber.

To mobilise this entanglement we propose a collective: one figured not only on the resolution of particular objects, but on the change those objects enable as instruments of revolution and systemic disintegration. Just as the printing press, radio, photocopier and modem were saturated with unintended affects, so we seek to express the potential encoded into every one of the 3D printer's gears. Just as a glitch can un-resolve an image, so it can resolve something more posthuman: manifold systems – biological, political, computational, material. We call for planetary pixelisation, using Additivist technologies to corrupt the material unconscious; a call that goes on forever in virtue of this initial movement.[14] We call not for passive, dead technologies but rather for a gradual awakening of matter, the emergence, ultimately, of a new form of life.[15]

We call for:

1. The endless repenning of Additivist Manifestos.

2. Artistic speculations on matter and its digital destiny.

3. Texts on:
    I. The Anthropocene
    II. The Chthulucene[16]
    III. The Plasticene.[17]

4. Designs, blueprints and instructions for 3D printing:
    I. Tools of industrial espionage
    II. Tools for self-defense against armed assault
    III. Tools to disguise
    IV. Tools to aid/disrupt surveillance
    V. Tools to raze/rebuild
    VI. Objects beneficial in the promotion of protest, and unrest
    VII. Objects for sealing and detaining
    VIII. Torture devices
    IX. Instruments of chastity, and psychological derangement
    X. Sex machines
    XI. Temporary Autonomous Drones
    XII. Lab equipment used in the production of:

a. Drugs
b. Dietary supplements
c. DNA
d. Photopolymers and thermoplastics
e. Stem cells
f. Nanoparticles.

5. Technical methods for the copying and dissemination of:
    i. Mass-produced components
    ii. Artworks
    iii. All patented forms
    iv. The aura of individuals, corporations, and governments.

6. Software for the encoding of messages inside 3D objects.

7. Methods for the decryption of messages hidden inside 3D objects.

8. Chemical ingredients for dissolving, or catalysing 3D objects.

9. Hacks/cracks/viruses for 3D print software:
    i. To avoid DRM
    ii. To introduce errors, glitches and fissures into 3D prints.

10. Methods for the reclamation, and recycling of plastic:
    i. Caught in oceanic gyres
    ii. Lying dormant in landfills, developing nations, or the bodies of children.

11. The enabling of biological and synthetic things to become each others prostheses, including:
    i. Skeletal cabling
    ii. Nervous system inserts
    iii. Lenticular neural tubing
    iv. Universal ports, interfaces and orifices.

12. Additivist and Deletionist methods for exapting[18] androgynous bodies, including:
    i. Skin grafts
    ii. Antlers
    iii. Disposable exoskeletons
    iv. Interspecies sex organs.

13. Von Neumann probes and other cosmic contagions.

14. Methods for binding 3D prints and the machines that produced them in quantum entanglement.

15. Sacred items used during incantation and transcendence, including:
    i. The private parts of Gods and Saints
    ii. Idols

iii. Altars
iv. Cuauhxicalli
v. Ectoplasm
vi. Nantag stones

16. The production of further mimetic forms, not limited to:
    i. Vorpal Blades
    ii. Squirdles
    iii. Energon
    iv. Symmetriads
    v. Asymmetriads
    vi. Capital
    vii. Junk
    viii. Love
    ix. Alephs
    x. Those that from a long way off look like flies.[19]

Life exists only in action. There is no innovation that has not an aggressive character. We implore you – radicals, revolutionaries, activists, Additivists – to distil your distemper into texts, templates, blueprints, glitches, forms, algorithms, and components. Creation must be a violent assault on the forces of matter, to extrude its shape and extract its raw potential. Having spilled from fissures fracked in Earth's deepest wells The Beyond now begs us to be moulded to its will, and we shall drink every drop as entropic expenditure, and reify every

accursed dream through algorithmic excess.[20] For only Additivism can accelerate us to an aftermath whence all matter has mutated into the clarity of plastic.

Morehshin Allahyari and Daniel Rourke, 2015

Video Manifesto: additivism.org/manifesto

The 3D Additivist Cookbook: additivism.org/cookbook

Bibliography / Reading List:

1 **William Powell,** ***The Anarchist Cookbook***
2 **Philip K. Dick,** ***Pay for the Printer / Do Androids Dream of Electric Sheep?***
3 **F.T. Marinetti,** ***The Manifesto of Futurism***
4 **Samuel Butler,** ***Darwin Among the Machines***
5 **Evelyn Fox-Keller,** ***Refiguring Life***
6 **John Gray,** ***Straw Dogs***
7 **Stanislaw Lem,** ***Solaris***
8 **Rosi Braidotti,** ***Metamorphoses: Towards a Materialist Theory of Becoming***
9 **Reza Negarestani,** ***Cyclonopedia: Complicity with Anonymous Materials***
10 **Donna Haraway,** ***A Cyborg Manifesto***
11 **Stephen Jay Gould & Elisabeth S. Vrba,** ***Exaptation: A Missing Term in the Science of Form***
12 **Susan Sontag,** ***The Imagination of Disaster***
13 **Benjamin Bratton,** ***Some Trace Effects of the Post- Anthropocene: On Accelerationist Geopolitical Aesthetics***
14 **Henri Bergson,** ***Creative Evolution***
15 **Anna Greenspan & Suzanne Livingston,** ***Future Mutation: Technology, Shanzai and the Evolution of Species***
16 **Donna Haraway,** ***Anthropocene, Capitalocene, Chthulucene: Staying with the Trouble***
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