

# Hybrid Artistic Research

Alan Murray

*Alan Murray has a simple and pragmatic approach to art making; 'knowledge is only meaningful when coupled with action'. Indeed by doing things himself and temporarily disengaging the abstract, he hopes to shed new light on seemingly simple matters. In 1991 he made a series of works with household steam iron instruction manuals challenging industry to make better manuals. Recently he has developed a guide to the game of squash suggesting the designer needs to be totally immersed to be able to translate expert and complex information.*

*This paper explores how art that positions itself in an applied arena can develop meaningful research that, by its hybrid nature, reflects on both the applied and the artistic.*

*Furthermore it may be possible for the artist to be designer to be user, based on overlapping interests in materials, technologies and practices. When a practitioner works in another profession they become, by definition, an amateur. This paper argues that historically obsessive amateurs have been the creative force that has begun and fuelled revolution (eg. the Lunar Society of Birmingham). Engineers are looking to bring a creative and playful element to their practice alongside standardisation and exploitation. Artistic research can show the way.*

**Keywords:** Artistic Research, Hybrids, Obsessional Amateurs, Revolutionary Amateurs, Creative Engineers, Synthetic Biology,

## Introduction

This paper explores aspects of hybrid activity. It aims to describe how some artists have developed research that operates in other disciplines. These artists act with an 'obsessed amateur idealism' that has some associations with eighteenth century polymath inventors. But Engineers have constrained their own creativity and conversely artists struggle with the complex science and engineering underlying any project.

This paper shows that artists have an inherent freedom to pursue obsessions that can lead to interesting objects and interactions. But those outcomes may be seen by some to be manneristic and inconsequential. Grass-route examples from computer engineering show that mass participation by enthusiasts is possible, though within the field of Synthetic Biology a hackers approach can lead to relatively 'poor scientific output'. If artists can widen their vocabularies through a user-centered approach and translate and communicate 'complex information' by immersion, then artistic research may play an increasingly important role.

## Artistic Research

### Instruction Manuals



**Figure 1:** Corrected Philips Instruction Manual 1991



**Figure 2:** Morphy Richards Intervention 1992

Since 1989 Alan Murray has been making artwork to be practically used. By using a simplified pragmatic approach to art making; 'knowledge is only meaningful when coupled with action', Murray examined current manuals and through re-made manuals (*Figure 1*) and 'critical boards' (*Figure 2*) Murray challenged manufacturers to make instruction manuals that were (a) Consistent and safe and (b). Specific for the product bought. Murray's practical artwork was in contrast to the work of many contemporary artists that is either (a) a collection of interesting artefacts (*Figure 3*) or (b) 'a signpost to interesting phenomena' (*Figure 4*).

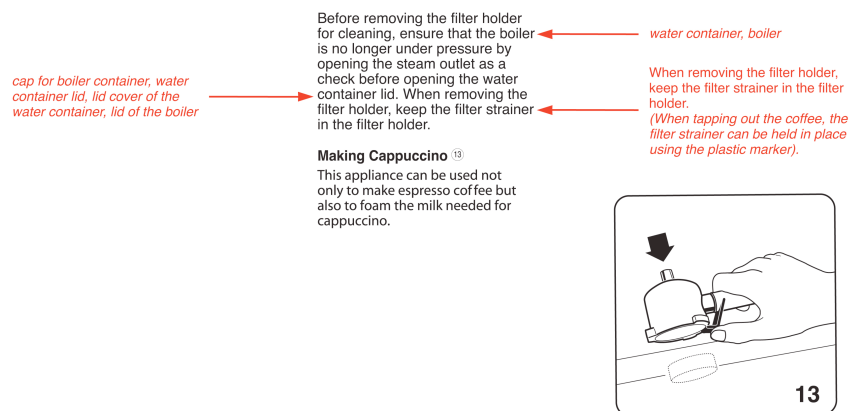


**Figure 3:** Damien Hirst – Pharmacy, Tate Modern 1992



**Figure 4:** Fiona Banner - Chinook, 2013

The practical nature of Murray's artwork increasingly led to media-independent, concept-led and problem-specific outcomes. For example, an earlier artwork (*Krups Espresso*) suggested changes to a coffee machine instruction manual based on consistency (the glass carafe is called the 'carafe', 'jug', 'glass jug') and safety (for example the manual suggested that the User should remove the filter holder *before* releasing the boiler pressure; a dangerous instruction for those following the instructions). Murray proposed to add an extra illustration to the manual (*Figure 5*) which would help Users safely empty the used coffee from the Filter Holder.

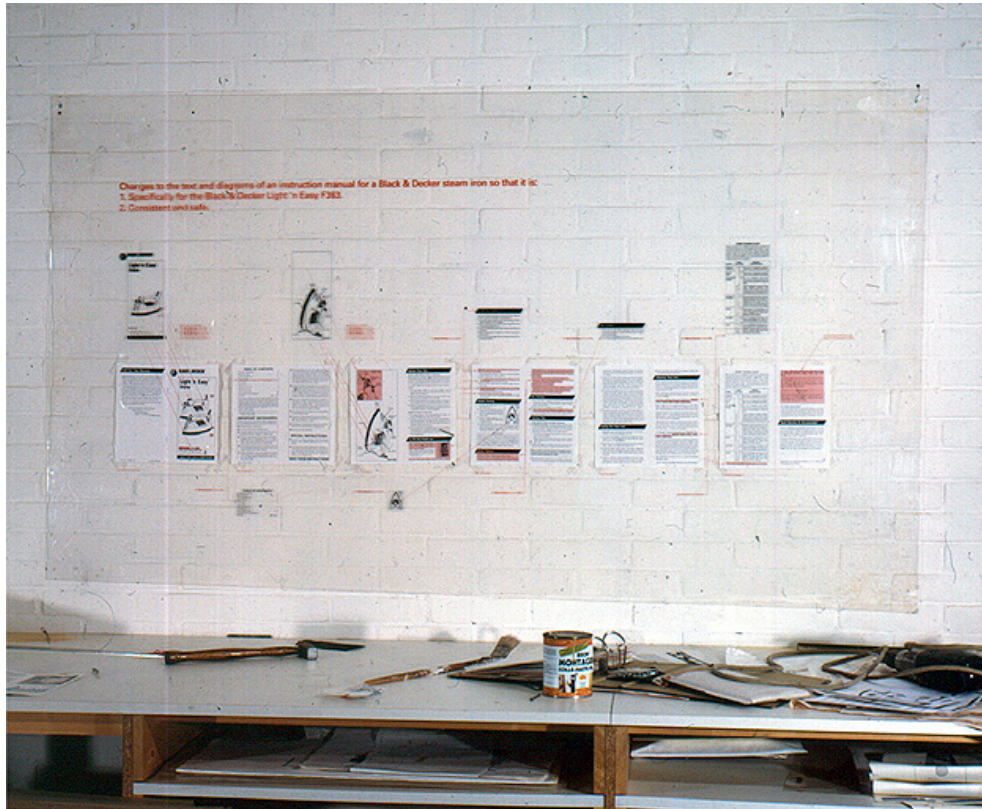


**Figure 5:** Krups Coffee Machine suggested changes 1989





**Figure 6:** Black & Decker, Calor, Morphy Richards, Philips and Rowenta steam irons bought 1991



**Figure 7:** Steam iron criticism Board 1992

In 1991 Murray made a series of artworks with household steam iron instruction manuals from a variety of manufacturers (*Figure 6*). Eventually, 'critical boards' were exhibited in the Morphy Richards design offices in South Yorkshire where the original instruction manual was designed (*figure 7*). Conversations with Peter Keagh (Chief Product Engineer) and Chris Thompson (Marketing Director) were recorded with a hidden microphone <sup>1</sup> (and later transcribed and exhibited). Murray challenged the senior managers to make better manuals:

**Alan Murray (A.M.)** With this work one part of my statement is that I want to make you aware that your approach to your instruction manual is being observed. I want to examine the instruction manual (the fundamental link between manufacturer, object and consumer) and suggest that you do not take full responsibility for the document which explains how to use the object that you produce. I would like to exhibit this notice board..... *points to the notice board on the table.....* in the design rooms where the original manual was designed. Then in a few weeks I would like to return and talk with the designers and discuss

<sup>1</sup> Although the use of the 'hidden microphone' is contrary to recent research codes of practices/ethical approaches, Murray felt that this method was appropriate for this particular 'artistic intervention'

my aims, the problems I have with their work and any problems they may have with my work.

**Peter Keagh (P.K.)** I still can't get to the bottom of this, why are you doing this? I can't understand what you get from this. It seems like you are doing it for nothing, that you don't get anything from it.

**A.M.** Well I do get something from it. As an artist you can do a lot of things, paint paintings, make sculptures, take photographs - all kinds of things. What I think is important is that an artist investigates the visual symbols and information around us. I think art is about communication. The fact that I use an instruction manual to make a piece of art shows the importance that I attach to instruction manuals. In fact, I think I take them more seriously than you do.

**P.K.** Well I have only been with this company for a few weeks and I think that this instruction manual is awful. I thought that you would have been coming here today and saying 'that's an awful instruction manual and I have a better design, do you want to buy it?'

**A.M.** At the moment I think that it is more important to point out the faults that you are producing and selling rather than come along with a new design which you might, again, infect with your flawed attitude somewhere along the line. My investigation of your instruction manual is supposed to highlight this deep rooted flaw.

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**P.K.** *points to diagram on display board and asks why I have suggested changing the position of the steam iron from on it's sole plate to on it's heel.*

**A.M.** The instruction manual tells you to never rest the iron on it's sole plate, yet your diagram shows the iron doing just that. I rotate the diagram so the iron is resting on its heel.

This is the first contact that I have with you, to exhibit this display board criticising your original design. I am not looking for any money, I am not looking for a job. I want to suggest that I, as an artist, can approach you, explain my position and exhibit an object which is the evidence for this statement. All I ask you to do is listen and if you agree with any points I make, change your manual accordingly.

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**P.K.** If you can find some way of fixing the original manual to the back of the display board so that I can take it all up in one piece I will find somewhere in the office for it to go.....*talking to C.T....* though I don't particularly want to organise it if it is your department.

**Chris Thompson (C.T.)** Is it?

**P.K.** Yes, traditionally instruction manuals are your responsibility.

**C.T.** Oh I thought they were yours.

*C.T. and P.K. laugh.*

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**C.T.** Can I just ask one question concerning copyright? If you leave this with us we don't want to find ourselves in a position where our copyright is compromised,

I mean we are in the process of developing instruction manuals which are our property and we have a copyright. It is fine to advise and improve and rationalise, in fact we have a project on to do that because we ourselves believe that our instruction manuals could be improved. Now, I don't want to get into the argument of you saying that we have stolen your ideas. If you would rather walk away from this now.....

**A.M.** It's my hope that you will change the mistakes in your instruction manual because of my intervention.

**C.T.** So you're not looking for any payment for that?

**A.M.** No.....

**C.T.** No financial arrangement or anything like that?

**A.M.** No nothing. If my intervention makes you reconsider your attitude towards the way you have produced your instruction manual then my work has been successful.

*Both C.T. and P.K. laugh.*

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The conversation has been exhibited (*Figure 8*) and the artwork sold. Morphy Richards did change their manual as a reaction to Murray's criticism.



**Figure 8:** Morphy Richards artwork exhibited Musea Deurle, Gent, Belgium

## Obsessional Guide

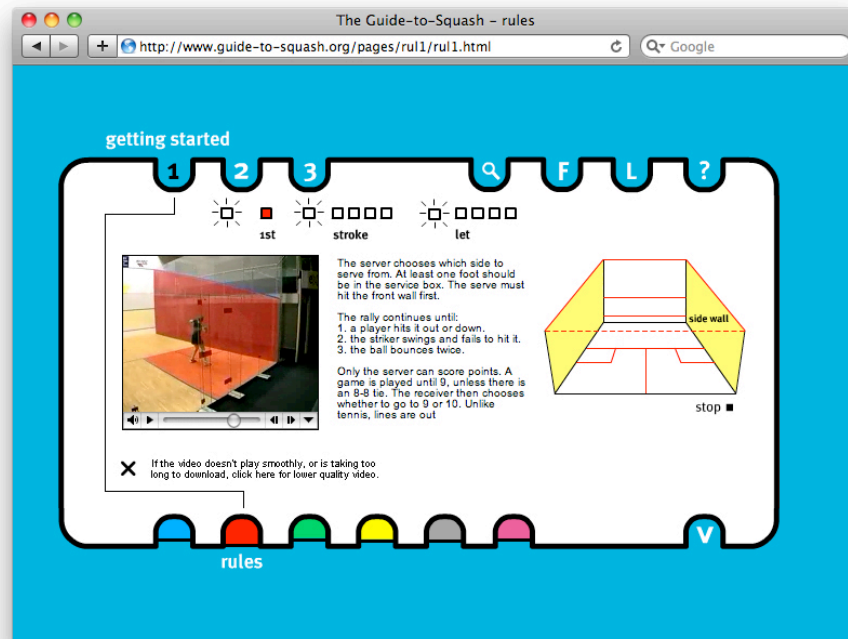
From 1997-2005 Murray built an online guide to the game of squash. The guide-to-squash demanded that Murray translated complexity by understanding the subject at first-hand. The 'Pragmatists' original pragmatic maxim was an important influence;

*"Consider what effects that might conceivably have practical bearings you conceive the objects of your conception to have. Then, your conception of those effects is the whole of your conception of the object"<sup>2</sup>*

<sup>2</sup> Peirce, C. S. (1878), "How to Make Our Ideas Clear", Popular Science Monthly, v. 12, 286–302.

As a complete beginner to the game of squash Murray started to work with Liz Irving (ex World No.2 player) to build a guide to the game of squash. He trained alongside professionals, though in squash terms he was an amateur.

*"...in the last two decades a new breed of amateur has emerged: the Pro-Am, amateurs who work to professional standards. These are not the gentlemanly amateurs of old – George Orwell's blimpocracy, the men in blazers who sustained amateur cricket and athletics clubs. The Pro-Ams are knowledgeable, educated, committed and networked, by new technology. The twentieth century was shaped by large hierarchical organisations with professionals at the top. Pro-Ams are creating new, distributed organisational models that will be innovative, adaptive and low-cost..."*<sup>3</sup>



**Figure 9:** Guide-to-squash.org - 'Getting started' rules section

The guide-to-squash became the No. 1 site for squash coaching on the Internet (Figures 9). It was supported by the World Squash Federation and provided the highest-level squash coaching alongside top quality squash matches featuring the Worlds best players to allow many of the 18 million active players around the globe to improve their own game of squash. The design of the guide-to-squash was developed to allow players to improve their squash at all levels (beginner, intermediate and advanced). Different topics within these levels (stretch, rules, hit, move, drill, tactics and game) allowed the users to develop all facets of their game. All this was incorporated into a playful interface featuring over a thousand videos to give the best possible way to understand all aspects of the game of squash. One of the most innovative parts of the site was the streaming video section. This was the first sports web site to bring high quality streaming video coverage to a global audience. These matches were watched by thousands of people per week and were often their only chance to see great squash players play.

The project developed a user-centred methodology for the way a designer should be immersed in a subject to understand and be able to translate and communicate 'complex information'. The guide was designed with the knowledge and experience of an expert translated through a 'beginner's eye' and his blossoming experience (Figure

<sup>3</sup> Charles Leadbetter and Paul Miller, "Proam Revolution 2004" pamphlet



10) Murray's own game of squash improved and 'grew' as the guide-to-squash was built. Murray was an 'obsessional amateur' (Figure 11). Professionals' have a 'cut-off point; they make agreements about what they are going to deliver and their aim is to reach those deliverables, no more, no less. The Amateur has a freedom of choice and does not have to stop, they can go on and on with a motivated conviction. Their drive to develop things or make them better may go beyond established thinking patterns to develop 'revolutionary thinking'.



**Figure 10:** Personal development videos 2001 until 2005



**Figure 11:** photo shoot for Miser and Now Art magazine, London 2006



## Hybrid Activity

Recently, artists have used a 'design' approach to make artworks. They have produced practical, functional products. In 2001, N55; a Copenhagen-based Scandinavian art collective founded in 1994, developed the 'Snail Shell System';

*"...a low cost system that enables persons to move around, change their whereabouts and live in various environments. One unit supplies space for one person. It is mobile both on land and water. One person can move it slowly, either by pushing it like a wheel, walking inside it or on top of it (Figure 12).*

*On water it can be rowed, moved by a kite or hooked up to a vessel, for example, a ferry. The unit rests on one flat side and can be anchored in lakes, rivers, harbours or at sea. On land, it can be placed in city spaces, fields, forests etc.*

*The SNAIL SHELL SYSTEM takes up very little space and can easily be placed in a discreet way. It can be buried in the ground, exposing only the entrance. It can also function as a comfortable space inside existing buildings."*<sup>4</sup>



**Figure 12:** N55 - Snail Shell System, 2001

N55 aim to make artwork that bridges the gap between "Art And Reality", in which they argue for necessary relations between language, experience and the surrounding world."<sup>5</sup> The client for their collection of artworks is 'mankind in general', which allows N55 to develop products that have an increased challenge and uniqueness within a functional framework.

Superflex, a prolific Danish artists' group founded in 1993 refer to;

*"...our artistic activity as socio-economic integration. The reason we work within art is because of the possibilities it offers - a space in which to experiment, free from the bonds of convention."*<sup>6</sup>

Since 1996 SUPERFLEX has collaborated with European and African engineers to construct a simple biogas unit that can produce sufficient gas for the cooking and lightening needs for a family living in rural areas in the Global South. In August 1997, SUPERFLEX installed and tested the first Supergas biogas system running on organic materials, such as human and animal stools (Figure 13). The experiment was carried out at a small farm in central Tanzania, in cooperation with the African organisation SURUDE (Sustainable Rural Development). The biogas plant produces approx. 3-4 cubic metres of gas per day from the dung from 2-3 cattle – enough for a family of 8-10 members for cooking purposes and to run one gas lamp in the evening.<sup>7</sup>

<sup>4</sup> N55, Narayana Press, Odder, Denmark 2003

<sup>5</sup> SPACE BODY LIFE - BASICS AND MUTATIONS OF N55, Lars Bang Larsen, Oct 2003

<sup>6</sup> An Exchange Between Åsa Nacking and SUPERFLEX, Louisiana Museum, Denmark, Afterall, Issue 0, 1998

<sup>7</sup> <http://www.superflex.net>



**Figure 13:** Supergas, Superflex, 1996

*"The biogas project as presented in an art institution offers a practical example of what we are doing in Africa. We can use the presentation to create a debate on our attitude toward Africa and the Third World. Art exhibited at an institution becomes a type of advertisement or exhibition booth - perhaps more for our specific way of thinking than anything else. We not only present a product, we also offer ideas on social and aesthetic function."*<sup>8</sup>

*"Unlike artists who see themselves in opposition to society or who want to be alternative, we are working within the social structure. By using this method we improve our chances of being socially and economically relevant."*<sup>9</sup>

Artist Andrea Zittel began creating *Six Month Uniforms* in 1991 as a response to the social dictate to wear an entirely different change of clothes every day. By wearing a single uniform for six months, she not only eliminated the stress of choosing a daily outfit, but also generated an alternative to the mandate of perpetual variety mandated consumer culture. More than seventy variations of the *A-Z Personal Uniform* now exist. Zittel's driving principle is that "rules make us more creative".<sup>10</sup>



**Figure 14:** Andrea Zittel, *Six Month Uniform* 1991-93

By developing practical functional products as artworks, Murray, N55, Superflex and Zittel question the way an artwork is conceived, exhibited and consumed by the art world and public. The underlying idealism of their work coupled with the relative freedom of making for a 'mankind-consumer' allows the artists to explore the function and perceptions of art and design. Conceptually they enjoyed a freedom similar to the

<sup>8</sup> An Exchange Between Åsa Nacking and SUPERFLEX. 1998

<sup>9</sup> An Exchange Between Åsa Nacking and SUPERFLEX. 1998

<sup>10</sup> <http://www.zittel.org>

'Gentleman scientists' in post-Renaissance Europe who's financial independence allowed them to pursue scientific study without direct affiliation to a public institution.

Murray's 'guide-to-squash' work (*figure 9*) develops a cyclical process where the artist *becomes* designer *becomes* user. Murray is not just making a collection of interesting artefacts or acting as a signpost to interesting phenomena, he is translating expertise and involving a larger public in his findings through emerging social media methods. Similarly Andrea Zittel instigated 'Smockshop' (*figure 15*). A smock is a simple double wrap around garment designed by Zittel - then sewn by artists who reinterpret the original design. Each resulting smock is completely unique and one-of-a-kind. <sup>11</sup>



**Figure 15:** Andrea Zittel, *Smockshop* 2007-10

## Revolutionary Amateurs

When a practitioner works in another profession they become, by definition, an amateur. In times of great technological opportunity and growth, invention creates new disciplines by the transference and transformation of expertise and knowledge from existing disciplines. The 'Lunar Society' was a grouping of polymaths who met every month in and around Birmingham on the Monday nearest the full moon (when there was most light to travel home by) from 1765 until 1813.

The Lunar Society were especially interested in the application of science to manufacturing, mining, transportation, education and medicine. The 'lunartics' were Matthew Boulton, who created one of the first factories, James Watt inventor of the steam engine, Joseph Priestley who first isolated oxygen, scientist and industrialist Josiah Wedgewood and Erasmus Darwin, whose ideas on evolution anticipated those of his son. They became the pivotal strategists and inventors of the Industrial Revolution.

In 1949, Bill Phillips (*b.* 1914), a New Zealander who had learnt engineering through a correspondence course, was studying Economics at the London School of Economics and suggested to his distinguished tutor, Lionel Robins;

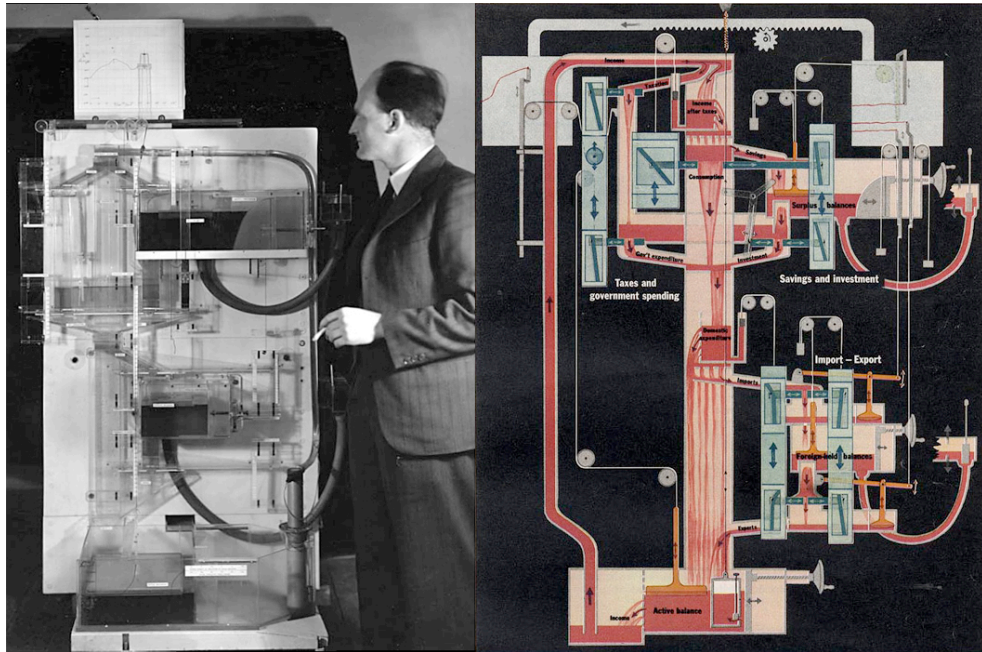
*"I'd really like to re-model all of your economic systems in plumbing,"*

Robins agreed and Phillips set to work on a kind of wardrobe-sized fish gym with sluice gates, floats and trap doors where everything was connected and revenues

<sup>11</sup> <http://www.zittel.org>



literally flowed from one place to another. It was the first computer anyone had built of any economy, and it was astonishingly accurate. <sup>12</sup>



**Figure 16:** Bill Phillips, Moniac, 1949

*"The twentieth century was shaped by the rise of professionals in most walks of life. From education, science and medicine, to banking, business and sports, formerly amateur activities became more organised, and knowledge and procedures were codified and regulated"* <sup>13</sup>, Howard Rheingold observes that: *"As with the personal computer and the internet, key breakthroughs won't come from established industry leaders but from the fringes, from skunkworks and startups and even associations of amateurs. Especially associations of amateurs."* <sup>14</sup>

## Creative Engineers

If invention does create new disciplines by the transference and transformation of expertise and knowledge from existing disciplines, the role of an Engineer in the emerging discipline of Synthetic Biology is an interesting case. Professor Alistair Elfick holds the 'Chair in Synthetic Biological Engineering' at the University of Edinburgh. Elfick laments the loss of the creative autonomous engineer inventor.

*The "practical art" of the engineer's antecedents embodied imaginative tinkering and development through trial and error. Over time, engineering evolved and metamorphosed, from a craft-like pursuit into a profession as the result of the Scientific and Industrial Revolutions of the sixteenth and seventeenth centuries and eighteenth and nineteenth centuries, respectively.* <sup>15</sup>

<sup>12</sup> Tim Harford: Pop-Up Ideas, BBC Radio 4, 2013

<sup>13</sup> ProAm Revolution, Charles Leadbeater Paul Miller, 2004

<sup>14</sup> Rheingold, Smart Mobs, 2002

<sup>15</sup> Alistair Elfick, Chapter: Constrained Creativity: An Engineer's Perspective, Synthetic Aesthetics, MIT Press 2013

The Engineer's priority has been to develop robust consistency and replicability and because of the greater complexity of projects, *the adoption of specific roles created the opportunity for design to become gradually separated from implementation.*<sup>16</sup>

Elfick believes that *in the separation of engineering and design into discrete practices, the opportunity for creativity was not equally shared. Engineers have seen their connection with creativity eroded, their ability to invent and innovate constrained.*

*Invention has been relegated to be the domain of the eccentric amateur. The profession of engineering has turned its back on tinkering and play; bereft of creativity, we have become the implementers of the inspiration belonging to others.*<sup>17</sup>

Some alternative approaches to innovation in Engineering have taken place. In September 1991 Linus Torvalds, a computer student at Helsinki University, posted the source code for his new operating system on the internet and asked his fellow software enthusiasts to make criticism, suggest improvements and go as far as to alter the code to suit their needs. This started a process of mass participation among thousands of software programmers. By 2004 about 20 million people around the world were using a version of Linux. There were 430 user communities in more than 72 countries and more than 120,000 registered Linux users, many of whom helped with its development.<sup>18,19</sup>

Although there have been attempts to develop a 'garage biology' (Hackers) approach to Synthetic Biology, the gulf between the 'Hackers aims' and what can be carried out in practice is substantial.

*DIYbio (Do-it-yourself Biology) is a network organisation of amateur biologists established in Boston in 2008 and composed of several groups in major US and European cities. Their aim is to provide nonexpert, citizen biologists with a collective environment and cheap and open source tools and protocols for biological research which can be conducted in amateur settings. This so-called «garage» biology is conducted in weird places such as garages or kitchens.*

*... today no active garage laboratories exist, and that in many cases garage biology consists of very elementary scientific practices, such as DNA extraction or bacteria isolation with household tools and products (you basically need a kitchen centrifuge, dish soap and a few other easily available chemicals to create a buffer solution and extract DNA from strawberries)... But during the last two years DIYbio groups have started several scientific projects. Interesting projects have focused on building open source lab hardware.*<sup>20</sup>

For example, low-cost thermocyclers such as OpenPCR (Polymerase Chain Reaction) have been created to make a crucial technology more widely available to the public (Figure 17).

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16 Alistair Elfick, *Synthetic Aesthetics*, MIT Press 2013

17 Alistair Elfick, *Synthetic Aesthetics*, MIT Press 2013

18 Charles Leadbetter and Paul Miller, "Proam Revolution 2004" pamphlet

19 I Tuomi, *Networks of Innovation*, Oxford University Press, 2001

20 Alessandro Delfanti, *Genome Hackers Rebel Biology, Open Source And Science Ethic*, 2010





**Figure 17:** Polymerase Chain Reaction (PCR), 2010

*Synthetic Aesthetics*,<sup>21</sup> an interdisciplinary research project paired six internationally renowned artists and designers with six leading synthetic biologists (resident groups) and tasked them with investigating design and synthetic biology. These collaborations have challenged assumptions, developed new forms of critique, and given rise to novel perspectives on design and biology. The residents groups represent the spectrum of synthetic biology and bio-art, industrial and speculative design, smell design, architecture, and music.

One resident pair, Christina Agapakis and Sissel Tolaas collected bacteria from people and used it to make 'human' cheese'. These personalised dairy products challenge the old adage of "we are what we eat", and the boundary between what we make and who we are.<sup>22</sup>



**Figure 18:** Human Cheese, *Synthetic Aesthetics*, 2011

<sup>21</sup> <http://www.syntheticaesthetics.org>, 2010

<sup>22</sup> <http://agapakis.com/cheese.html>, 2011

## Conclusion

To conclude, a hybrid approach to research can lead to invention. Artists have an inherent freedom to pursue obsessions that can lead to interesting and often challenging output. Recently artists have used a 'design' approach to make artworks. They have produced practical, functional products and this approach can help an artist work within the social structure of society rather than act in an alternative or oppositional way. Inventors, enthusiasts and obsessive amateurs share similar goals to those of artists; an underlying idealism in their work coupled with a relative freedom. As technological breakthroughs become more complex, artists may not have the scientific knowledge to drive innovation. Conversely Engineers have seen their connection with creativity eroded.

If artists can widen their vocabularies through a user-centered approach and translate and communicate 'complex information' by immersion, then artistic research may play an increasingly important role.