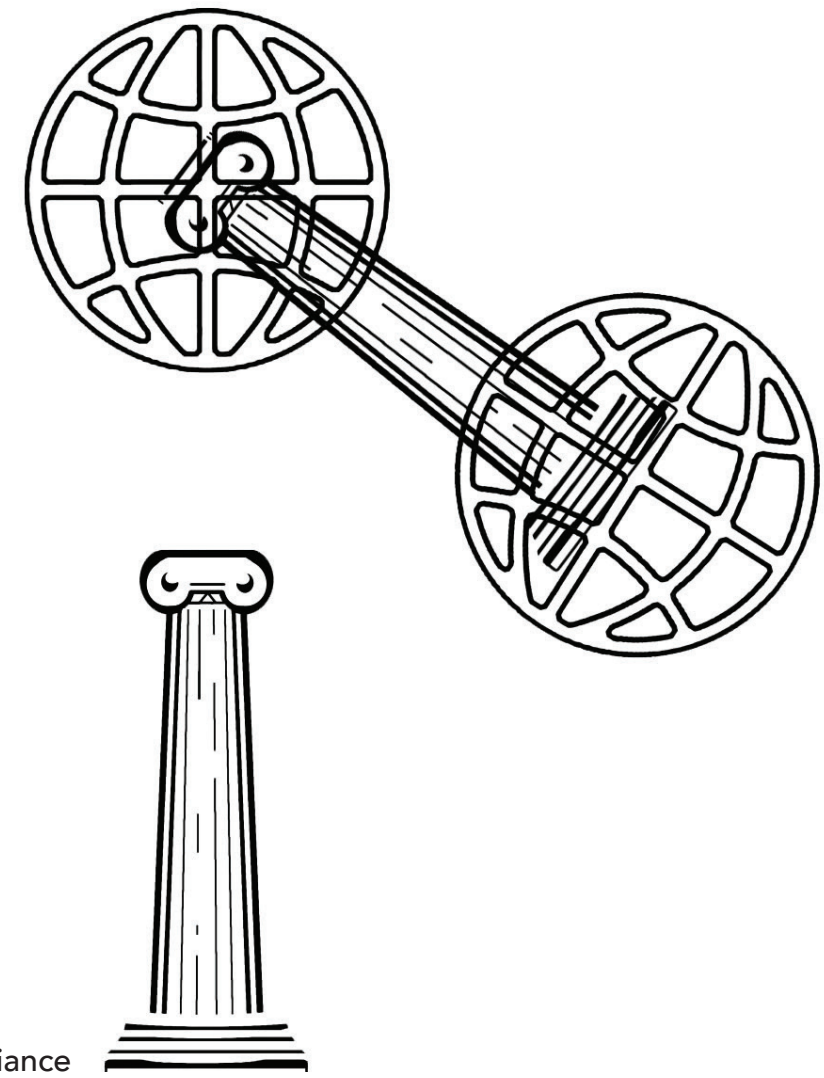
The Grand Alliance



Jenna Collins: The Grand Alliance
April, 2016
Quick Millions, London

The Grand Alliance is named after the consortium of American companies brought together in 1993 for the purpose of developing an HDTV standard, a process as personal, political and commercial, as it was technological or aesthetic. The project responds to the libidinal, comedic and delusional impulses present in the archival material, thinking about what we attach to the promise of ever better images and how we imagine the process by which they are arrived at.

If you're not part of the steamroller, you're part of the road.
-- Stewart Brand (1988)

Throughout April, Jenna Collins will undertake a residency within the online and physical space of Quick Millions, producing an unreliable history of HDTV in the form of a screenplay and associated material based on ongoing research into how technology might be thought about in non-technical ways.

Quick Millions: press release

The Grand Alliance

The Reunion

Figure 10: SIPB 25th year reunion[60]

Cut from black, medium close, **THE SPECIAL GUEST** is receiving an award.

He is a bland man of retirement age; his face is flushed and beautifully lit. He is standing in front of a silver shimmer curtain that sparkles between a pair of lightweight ionic columns. A suited man presents him with a holographic print of a hip joint. They shake hands. **THE SPECIAL GUEST** steps behind a lectern, moves his mouth to the microphone and in close up announces:

The presentation is taking place in **The Hangar**, an ex-military hangar located in a sprawling industrial estate and now used for an ad-hoc mix of educational, social and commercial purposes. The windowless space is immense. The high ceiling, floor and walls are painted black. Objects including a roulette table, hot drinks machine (on its side and leaking) and blood pressure monitoring devices litter the edges of the room, largely hidden behind huge, pale, theatrical curtains. Numerous smaller spaces are marked out in the central cavern by gaffa tape and freestanding baffles and in one of them the reunion at which **THE SPECIAL GUEST** is receiving his award is taking place.

THE SPECIAL GUEST produces a thick stack of prompt cards from his pocket. The medium wide takes in the full length of his body, the pillars and the award giver who is standing and watching in the background.

The reverb indicates the size of the room, the applause the size of the audience and the stack of cards the length of the speech. It is going to be long.

Although we will neither get to know nor care about **THE SPECIAL GUEST**, he is the narrator and the only identifiable character in the piece.

He begins a speech that retells the development of HDTV in the States.

THE SPECIAL GUEST relaxes as he becomes used to the microphone, enjoying what it does to his voice. He begins to exaggerate his intonation and range.

We stop looking at **THE SPECIAL GUEST** and our focus begins to drift, the speech is dull for those who weren't involved. Snatches of what he is saying seep in when the audience laugh or murmur their agreement. We amuse ourselves by testing the zoom on the camera, browsing the room for arrangements of light, shape and texture that the function.

We have a couple of drinks and look behind the room divider baffles and curtains at the stacks of chairs and the heart rate monitoring devices. We slot our hand in, one finger under a metal loop over an outline of a hand and try to feel our pulse by pressing down hard. After a moment or two we can feel it and it is out of synch with the music.

Cut to the **Lewisham Shopping Centre** Central Square, a bright and airy atrium space, busy with a weekday crowd. It is mute, overwritten by **THE SPECIAL GUEST** and R. Kelly. As if being recorded for a television news segment, the full space is shown with shoppers and lingerers passing diagonally, then a closer view of a woman with a buggy and a few shorter, closer looks at people putting bank cards into their pockets; looking at their phones; eating chocolate bars and dropping empty cans of fizzy drink into the fake flower beds. It is unclear what this news segment would be about but it doesn't feel very complimentary.

Silence.

If you're not part of the steamroller, you're part of the road.

Feedback, silence.

I repeat, if you're not part of the steamroller, you're part of the road.

Applause, laughter.

The general sound of the room, clinking cutlery, coughs, moving chairs etc. can now be heard.

An instrumental version of 'I Believe I Can Fly' by R. Kelly begins to play in the background.

Stew Brand once said that about our lab but it applies to the consumer electronics industry as a whole. People don't realise they are just part of the road, just gravel and tar, chewing gum and fox carcasses. They imagine modern life is the natural unfolding of potential and their due.

It's true that nobody votes for technology. Things like birth control pills, airplanes, hair straighteners, and computers just arrive but the standards and wider apparatus they make use of are agreements. They are part of an political process that, so far, has taken place far from the political arena of the public the standards will affect.

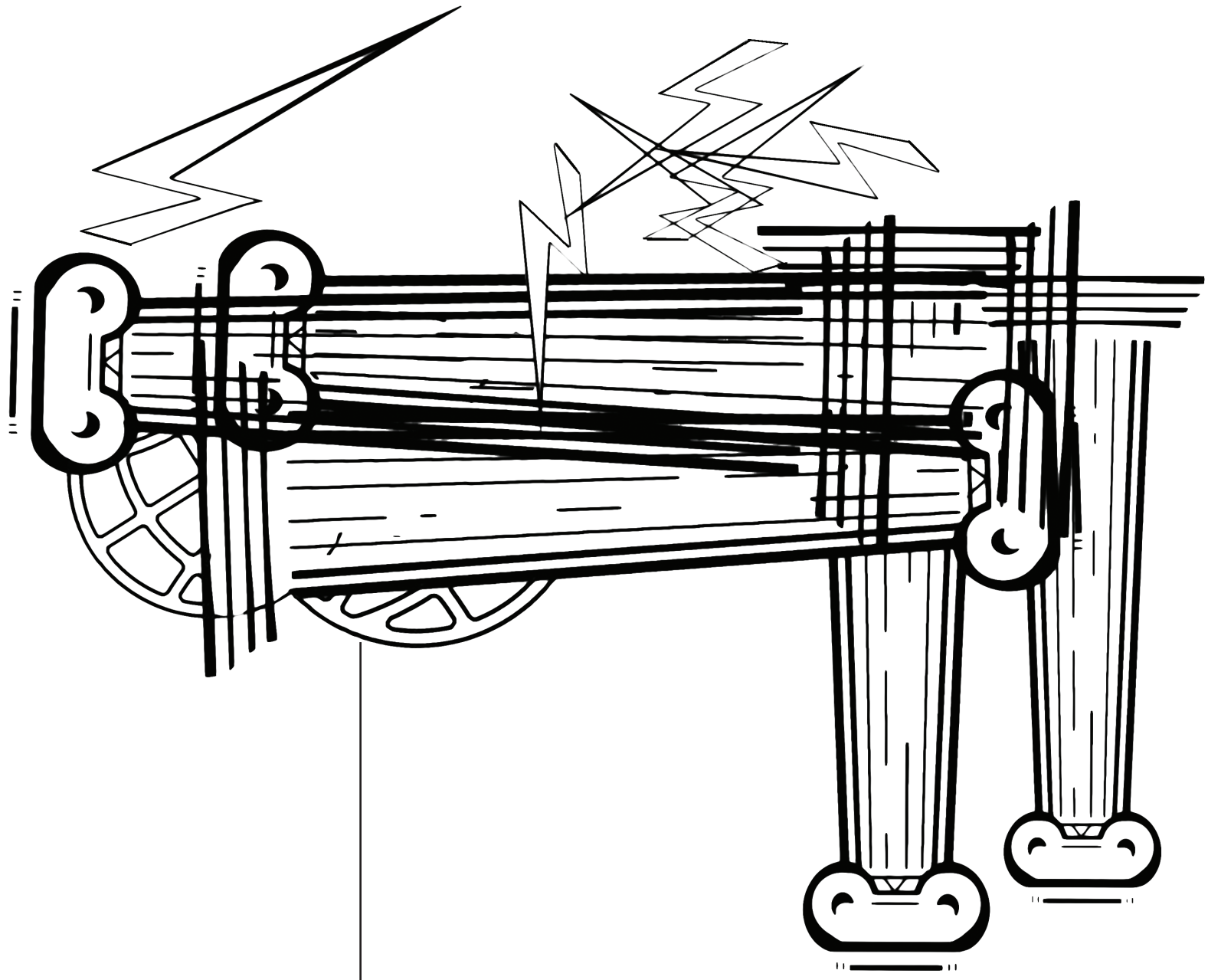
In the early days, NTSC (not the same colour twice), (audience laughter) *was the standard and everybody was happy. Nobody looked too close at the screen at all those millions of squirming bugs that made up the picture. If you sit six inches away from a magician you see sleight-of-hand instead of magic too.*

So when in the early '80's, when Reagan began to deregulate, Mark Fowler, chairman of the Federal Communications Committee told industry, "Your calling is to the market, which is the people, and to the truth", (loud audience laughter) *and the industry didn't want to listen.*

But by '85, the industry was under threat. Motorola wanted our bandwidth and the Japanese were demonstrating their HDTV to our government. At the 1986 International Radio Consultative Committee in Dubrovnik making the Japanese system the global standard was seriously discussed! That was their big mistake, the Europeans didn't want to lose TV manufacturing to the Japanese, and the US could sense convergence on the horizon. Did we really want to vote ourselves out of that future?

(Audience) *No. Boo.*

Hell no!



The Grand Alliance

Gravel and Tar

The **Lewisham Shopping Centre** central square with full location sound. The general views have given way to following a pair of pink shirted **MARKET RESEARCHERS** as they approach shoppers and try to engage them in conversation. The **MARKET RESEARCHERS** are largely ignored but a few shoppers do engage and after a couple of minutes are shown into what looks like a vacant shop. The windows are whitewashed with black paint and there is no signage.

A medium wide outside of the vacant shop. **SHOPPER A** exits and talks directly to us. In a sexy voice, **SHOPPER A** says:

Shopping centre atmos.

I was a little frightened actually. What struck me at first was when you see pictures of people, it is really as if they are in your own home, actually in your living room. You can see every little hair on a girls face, you can see the little lines, the little crinkles, all of the little spots -that's a bit frightening.

Although it is not 3D you felt as though you could reach out and touch the people.

He smiles and nods. He walks away and we turn and watch him leave. **SHOPPER B** interrupts with a cough:

SHOPPER B picks up her bags and stalks off in the same direction as **SHOPPER A**. We look back at the vacant shop, examining the scratchy black paint on the glass as more shoppers enter. A rectangular glow that cycles through a range of colours and light intensities can be made out telling us that there is large screen inside. Over the top, **THE SPECIAL GUEST**'s voice and his continuing speech drift into audio focus although we can't make out everything he is saying.

… '87, National Association of Broadcasters, NAB, showed Washington the Japanese system, (something), which was so beautiful, so gorgeous, it was intoxicating…bandwidth, (something)*, law of nature, set up the Advisory Committee on Advanced Television…an open competition for the creation of an American HDTV system,* (something) *crazies, backyards…*

SHOPPER C exits and tells us:

I think it is as perfect a picture as I will ever see. I experienced hues of colour and depth of field and the immediacy that I have never experienced before in the cinema or on television. I normally can't see the difference but actually I could, I could see that this is connoisseurs' television, this is real, this is fantastic, I feel as if I have opened the windows at home and I'm looking at the real world, marvellous, connoisseurs' television.

SHOPPER D, a heavy smoker adds:

I think the people that are going to use it for news are going to have to understand that they would have to use that sort of sense of reality in a responsible way, because if you take stuff in Beirut for arguments sake and you show it like this, it could be quite horrific.

Hell Week.

1989, we worked through 23 designs for a US system. We called it Hell Week. There was some great engineering work, but the amateur submissions were something else!

Laughter.

Cut to **The Hangar** and up very close to **THE SPECIAL GUEST** as he gulps back half a glass of white wine.

He downs the rest and addresses the crowd:

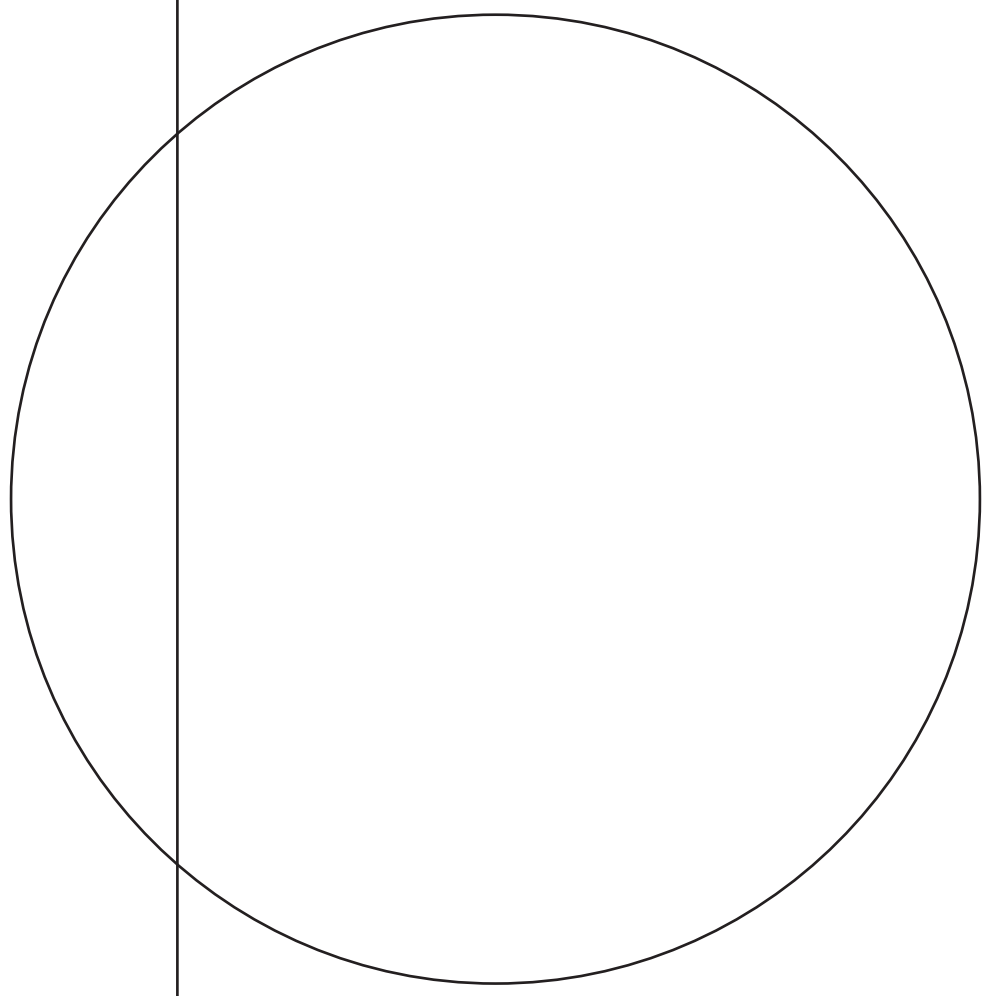
They included four regular screens taped together and smeared with flesh coloured rubberised paint; drawings for a holographic television that could beam different channels to each different eye; a remote control that speeds up the advertisements; and a whole load of magnifying glasses, panels and cushions for sitting nearer the screen.

Loud laughter.

The audeince is enjoying laughing at the amateurs and the ways in which they misunderstand High Definition, we dissolve between numerous laughing faces as **THE SPECIAL GUEST** revels in his success.

There was one though, one that we never found out if it was amateur or professional. It was a small, sealed black metal unit with just a power cable. When we powered it up it sort of sucked itself in, it's hard to explain exactly, I don't have the words, but it became harder, denser. We still don't know what is inside it, or what the big idea was or is, but the thing itself is so elegant, so beautiful.

THE SPECIAL GUEST holds a lump of compacted black metal in front of his now sweating face and gazes at it with wonder



The Grand Alliance

Conference Call

Morning in a tiny room nestled into the eaves of **The Hangar**, painted black. On one wall is the photograph of a piece of graffiti done inside a shabby institutional building, presumably for young people, it might be an educational facility or something to do with the law. On the opposite wall an A4 laminated printout reads 'necessity is the mother of invention is the mother of necessity is the mother of invention is the mother of necessity is the mother of...' and so on, filling the enitre page in a block of text.

A triangular teleconferencing device is balanced on a pile of old files on the floor, its green light is blinking slowly, indicating that a conference call is in progress. **GROUP OF STUDENTS (**five in total) can be heard chattering away on connections of varying quallity. Somewhere in the compressed audio space of the meeting a dog is barking and rain is falling. The students are discussing a seminar presentation they will be delivering about memory and technology.

Chatter.

On a clear line a loud voice takes charge of the chatter, **STUDENT ONE**:

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To recap the start of the presentation, the main points are:

The normal way of thinking about technology is as a tool, a means to an end, instrumental.

This reductive figuring of technology stems from Aristotle who connected instrumentality with the Sophists craft (the technical skill of rhetorical argument) believing it to be unscrupulous as it was concerned with power rather than truth.

Technology is the outsourcing of our capacities and knowledge, for Plato that meant we then lost something of those things. On writing, Plato says: 'Their trust in writing, produced by external characters which are no part of themselves, will discourage the use of their own memory within them. You have invented an elixir not of memory, but of reminding.'

Another way of thinking about technology is that the human and technology are co-constitutive. What we understand as human has evolved in conjunction with technology in a way that is impossible to separate; without technology we wouldn't be human.

French palaeontologist Andre Leroi-Gourhan, argued that objects carry the memory of their use. A prehistoric bowl is a witness to the bowls use, even though it was created for holding food rather than remembering. Therefore there are three sorts of memory: personal memory, genetic memory and the memory held by things.

Through the memories attached to things we have access to the experiences and knowledge of others. Contemporary philosopher Bernard Stiegler believes that there are two types of memory holding things. First there are technics, things such as pots and roads which carry memory in addition to their main purpose, and then there are mnemotechnics invented expressly to hold memory and knowledge; things like writing, painting and television.

Agreed?

The **GROUP OF STUDENTS** respond:

Uh-huh, yes, sure, okay.

STUDENT TWO then takes charge. The voice has the same echo and reverberation as the barking dog.

Then we go on to the group exercise with the images I sent.

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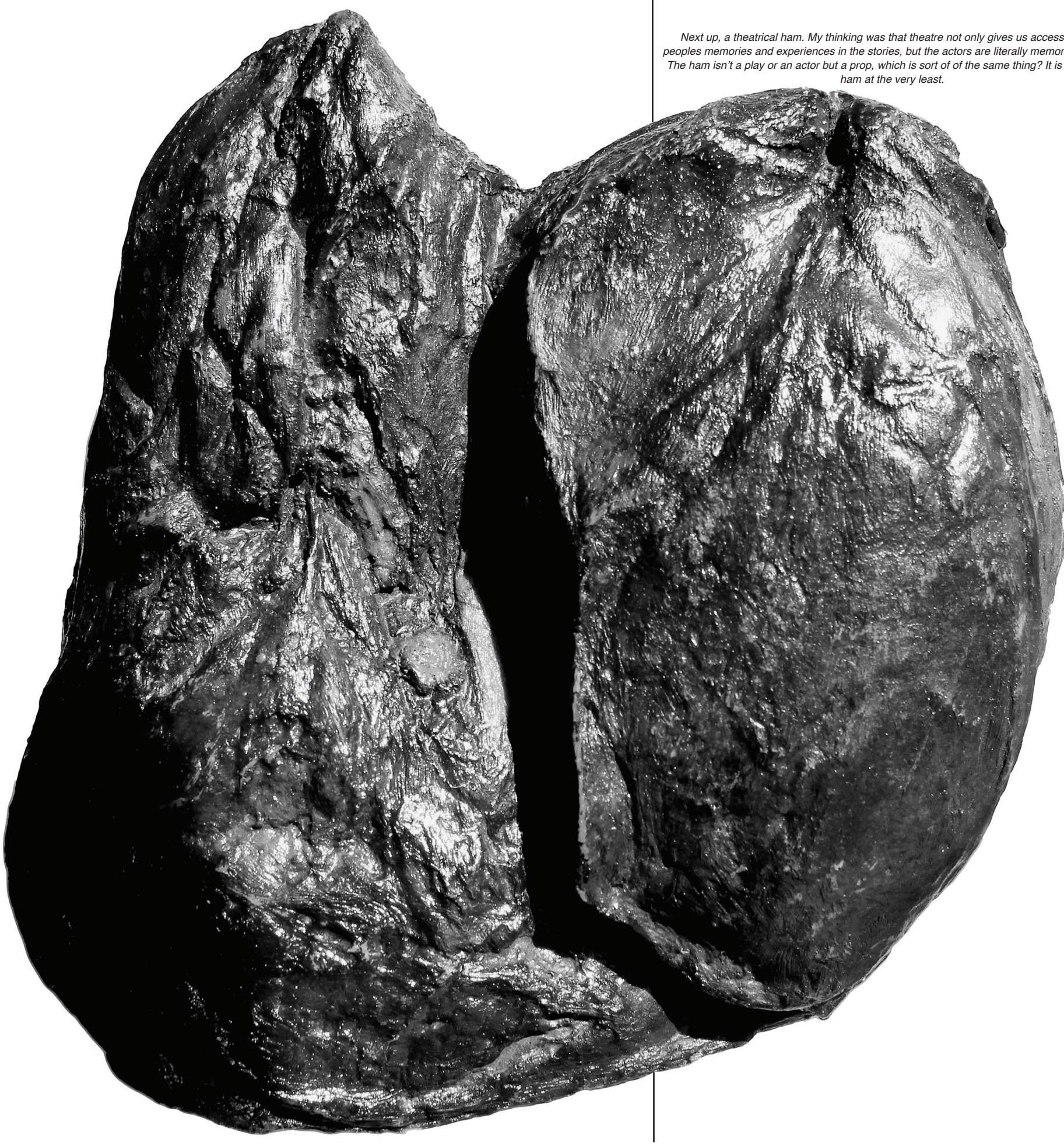
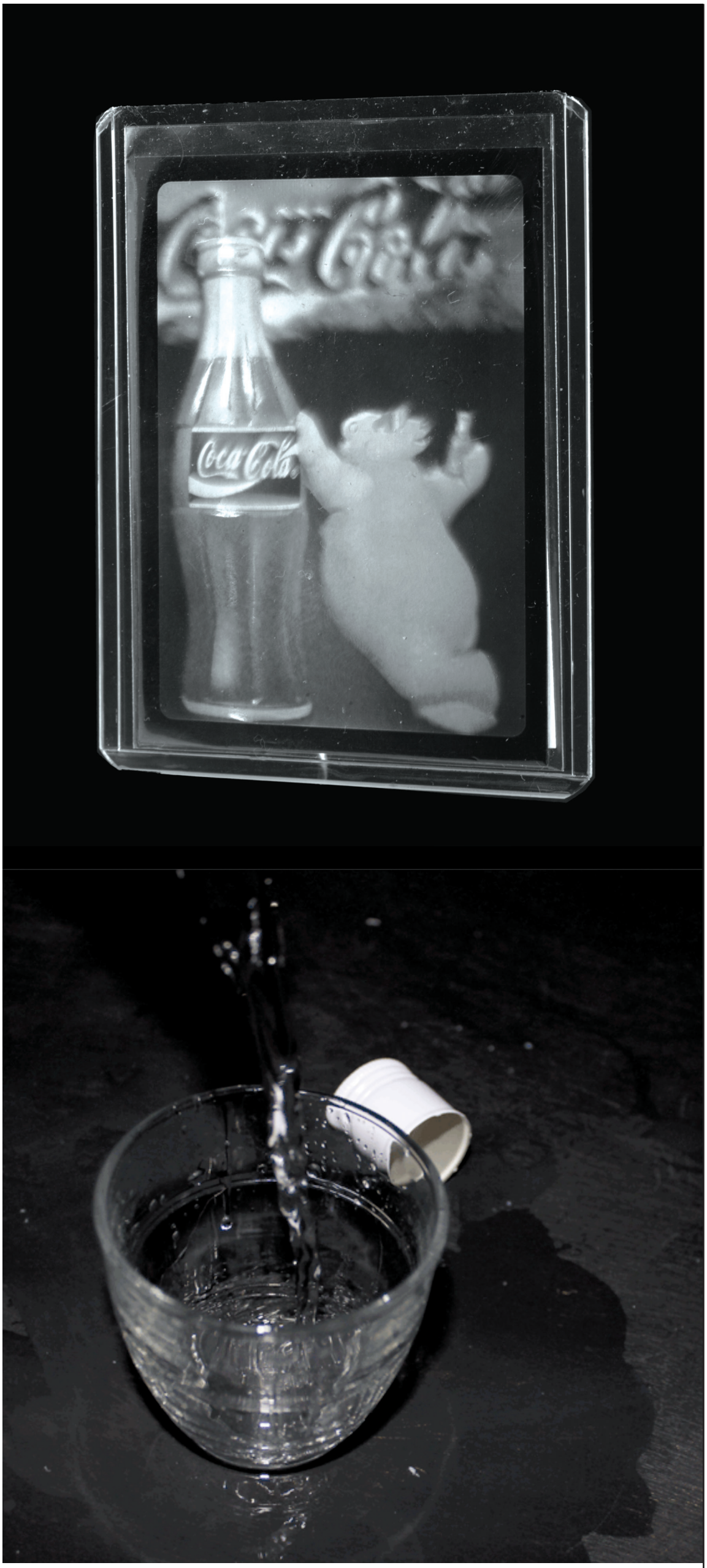
First is an easy one, the hard drive.

Then the dart board, for the numbers.

Then there will be the bodybuilder, I thought maybe for genetic memory and personal memory. What is muscle memory anyway? And also maybe technology in the steroids, you can't see them, but there is no way he could get that big naturally.

Next up, a theatrical ham. My thinking was that theatre not only gives us access to other peoples memories and experiences in the stories, but the actors are literally memorising things. The ham isn't a play or an actor but a prop, which is sort of of the same thing? It is acting as a ham at the very least.





I picked a hologram because it is like photography but the technical part remains obvious. You don't see them much anymore except for on bank cards. And this also has a logo, which is another sort of code, maybe they will pick up on that.

And the drink because I thought it would be funny to end with invention that makes you forget, and it's easier to remember things that make you laugh.

The Grand Alliance

The Grand Alliance

From the back of **The Hangar** we have a good view of the audience. Some are fatigued, some drunk and some are comparing yoga stretches to pass the time.

THE SPECIAL GUEST walks to the microphone from the piano. We hear the dying reverberation of a tune and applause mixed with laughter. It is clear that some time has passed and that **THE SPECIAL GUEST** is the worse for wear. Back at the microphone he continues, his voice slower but higher pitched than previously:

THE SPECIAL GUEST gestures towards a screen that has just been wheeled in next to him. The screen is displaying The Grand Alliance logo: an arrangement of columns, spheres and electricity spikes.

A visual sequence begins.

Three elements in white on black, ionic columns, gridded globes and electricity spikes, move around the screen slowly.

Scenes are fleetingly created. A column tumbles, an electricity spike strikes a planet, which becomes a snooker ball as it nudges another planet off the screen, which has become a table. The features on the ionic columns fade and the gridded globe becomes a plain circle, then a sphere, as the shapes become 3 dimensional and take on primary colours. An erotic formation can no longer be avoided as two spheres line-up at the base of the column, from the top of which is an emanation of electricity spikes. From this moment on it is impossible to read the objects as anything other, no matter what the arrangement.

The elements multiply until the screen is filled with thousands of squirming organs. The screen becomes immense with the details then flattens out into a smooth, bruised purlpe.

Paino tone, chatter, applause, laughter.

I could tell you some stories from the first round of tests; the arguments, the tricks, the secret deals, like charging the MIT guys $75,000 just to borrow a camera for a week! But in 1993, out of all that shit came, The Grand Alliance. AT&T, Bell Labs, GI, MIT, Philips, RCA Sarnoff and Zenith.

A cosmic rock version of 'I Believe I Can Fly' by R. Kelly begins to play in the background.

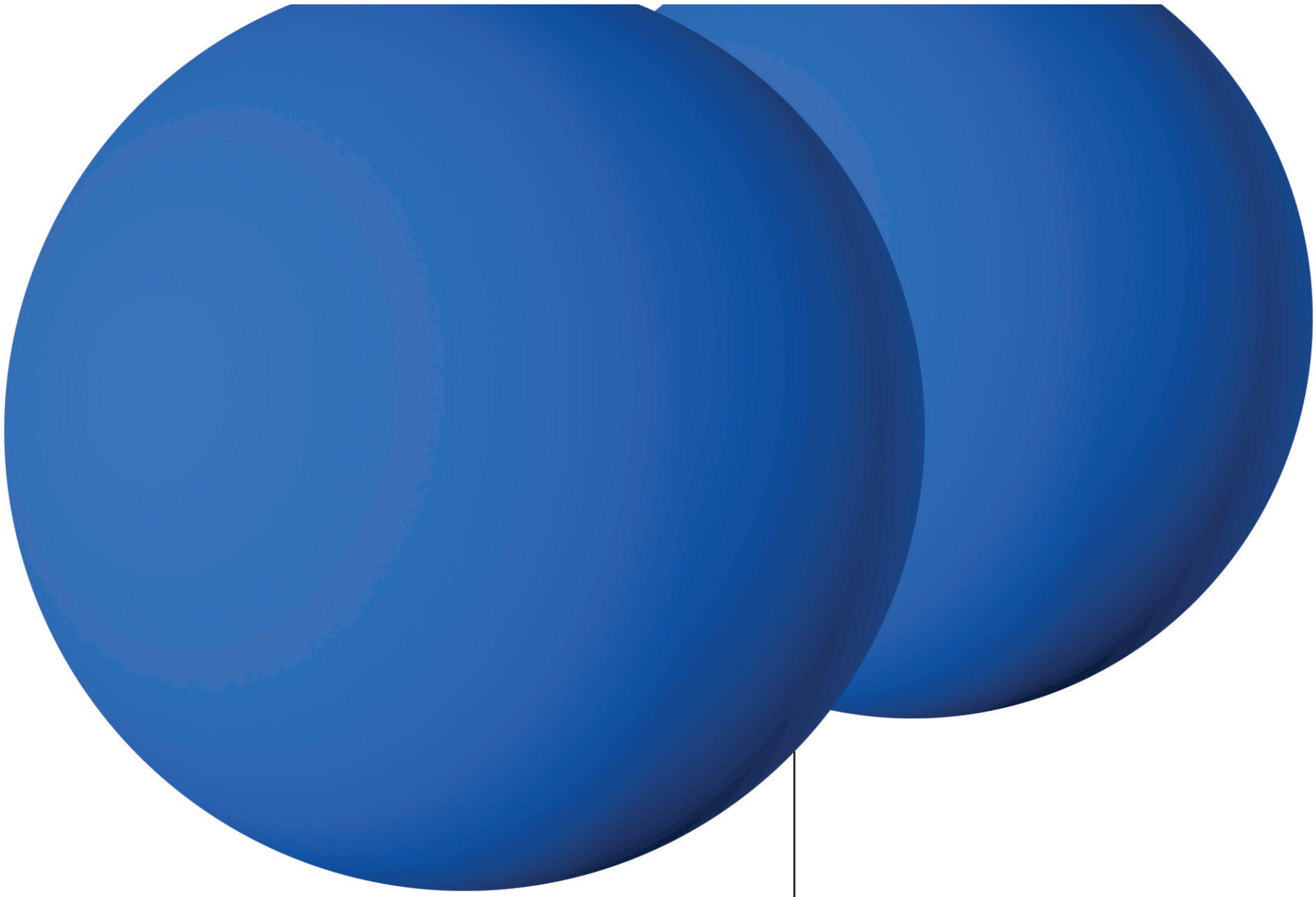
You all know our logo. It was made from analysing logos of the companies and the authorities involved because we worked this thing out together, in collaboration, there was structure and process and negotiation and we compartmentalised the workload and black-boxed our contributions.

Of course there was the MIT-Dolby lawsuit but there was also the Emmy.

The logo symbolises our unity. Together we built a system that convinced broadcasters and consumers to spend millions, billions, on a whole new infrastructure. This wasn't a technology that supplemented the old one; it totally blew it out the water.

And we held together while we were under attack, from the computer bods and then the film directors had a problem with the aspect ratio, but I told them, 'Our eyes are horizontal, not vertical; we have a widescreen view of the world FOR FUCK'S SAKE…WHAT IS WRONG WITH YOU?'

Where was I?



The Grand Alliance

The Demonstration

In **The Hangar** the industry event is nearing its end. The speeches are over and some people have left. We are sat at a table near the front following an awkward conversation and thinking about how we might get home.

In medium close **THE SPECIAL GUEST** is now very drunk. He has returned to the front and is trying to turn the microphone back on. He succeeds.

Terra 1994 and into the 1995, the PC industry continued to complain about in the next intent facing into into into entire racing racing racing lowlifes in interfacing interlacing. Both classes continued to complain about the costs of built-in need transmission towers wrote Kostas Grote cost this ruled ruled ruled for old board told Pro world throat pain throat pain broad Costa complained. Capel proprietors started to complain cable providers started to complain about must carry rules that might. And to carried by fee, without and I need digital channels at the same time.

THE SPECIAL GUEST's voice is too loud, the echo in the large space is confusing him but he perseveres.

Meanwhile the boys in the white kites continued working. By '95 that had been several successful transmission fields tests in Charlotte and see. In December that Xanax announced that 8 BST was finished don't be announced AC 3 was done and saw not indicated its transport was completed. G.I. had finished it's half of the D Cayuga Decatur Decatur geek who the code decode the, now IT'S half a few months later. In mid-April a TTC began its valuation of the to digital formats now officially adopted as the ATX see digital television standards...

Someone falls backwards off their chair, drinks fly and a table laughs. This catches **THE SPECIAL GUEST**'s attention:

Hey look, engineers happening on having fun, who knew? Thanks look too close, I mean, you are a hot looking audience but this typo, but this table, the drain, frame, brain is, we keep them locked in a lab reveries and for a reason if you know what time he if you know what I mean!

Shopping Centre atmos.

In the **Lewisham Shopping Centre** a woman is demonstrating a plastic spirialiser and peeler set, £5. It is 11 in the morning. The bowls of spiralised courgette and peeled sweet potato are turning watery, brown, and are beginning to smell.

A short distance away, **THE DEMONSTRATOR** (a middle aged man in a suit and tie), is setting up a large monitor on a trolley. He has a voice-over headset on. He yawns loudly and burps, he does not notice that he is amplified. He finishes the set-up, fiddles with the headset and pans the atrium before beginning his patter.

Testing testing, one, two, three…

Ladies and Gentlemen, The future is close, and it is within your grasp if you will give me five minutes of your time. Take a seat, please, take a leaflet. Hello darling, sit down for five minutes, tell me what you like to watch on the box…

THE DEMONSTRATOR slowly builds a small crowd of daytime shoppers with his chat and chairs. A couple of times he is interrupted by a digital touch-screen solicitor kiosk to the left of his monitor which asks no one in particular if they have been in an accident that was not their fault or if they needed free advice on probate. He examines the device, turns down the volume but can not find an off switch. He throws a fleece over the top, covering the screen, which now just glows meekly beneath.

off off off off off, volume, volume, off off

Drunken chatter.

Cut to back in **The Hangar**. **THE SPECIAL GUEST** is now out of sight and the monitor that had shown the industry logo animation has gone into sleep mode, a blank blue screen. A crashing, scraping, and then a loud tearing can be heard coming from the darkness behind the baffles and curtains. The top of a set of stairs on wheels comes into view over the top of the cordon, getting closer.

A crashing, scraping, and then a loud tearing.

Cut to **Lewisham Shopping Centre** and **THE DEMONSTRATOR** is in full swing.

To get the full effect of the quality I am introducing you to you will need to be prepared, in the industry we call this calibration. Just a few simple exercises will make it possible to appreciate the quality that a less refined eye might miss; I can tell you are all connoisseurs so this won't take long.

He plays a video clip of a severely simplified animated dog jumping to catch a dot that moves at a steady pace across the screen. The bottom half of the screen is green, the top blue; grass and sky.

Count how many times the dog catches the ball.

An extreme close up of a woman crying.

Count the hairs on her chin. Anyone spot anything else?

The children raise their hands excitedly.

I thought not, you have inattentional blindness.

Some people wander off, more are drawn in. An image of a blown up street somewhere hot is followed by the same image at lower resolution.

Which do you prefer?

A montage of perception tests cut with smiling faces, faces looking confused, some nodding, **THE DEMONSTRATOR** working hard, images on screen, animations of severely simplified animals and people, grids, circles and flashing colours.

The sequence is a failure. There are not enough images of attractive people responding to use as cut aways and so the few that there are, are repeated with a crop, or flipped horizontally. In other shots people are either not paying attention or their faces are slack as they give in to **THE DEMONSTRATOR**S instructions. The midi version of R.Kelly's 'I Believe I Can Fly' is too slow to save it.

I believe I can fly I believe I comply up and leave comply Open the foot comply I believe I can fly I believe I can fly up in the I believe I can fly.

Cut to **The Hangar**. **THE SPECIAL GUEST** drags the wheelie stairs into full view. He grabs the microphone and his hologram as he goes by. Ignoring the event organiser who is desperately but politely trying to dissuade him, **THE SPECIAL GUEST** begins to ascend the stairs.

No music. Some concerned shouting, some laughter.

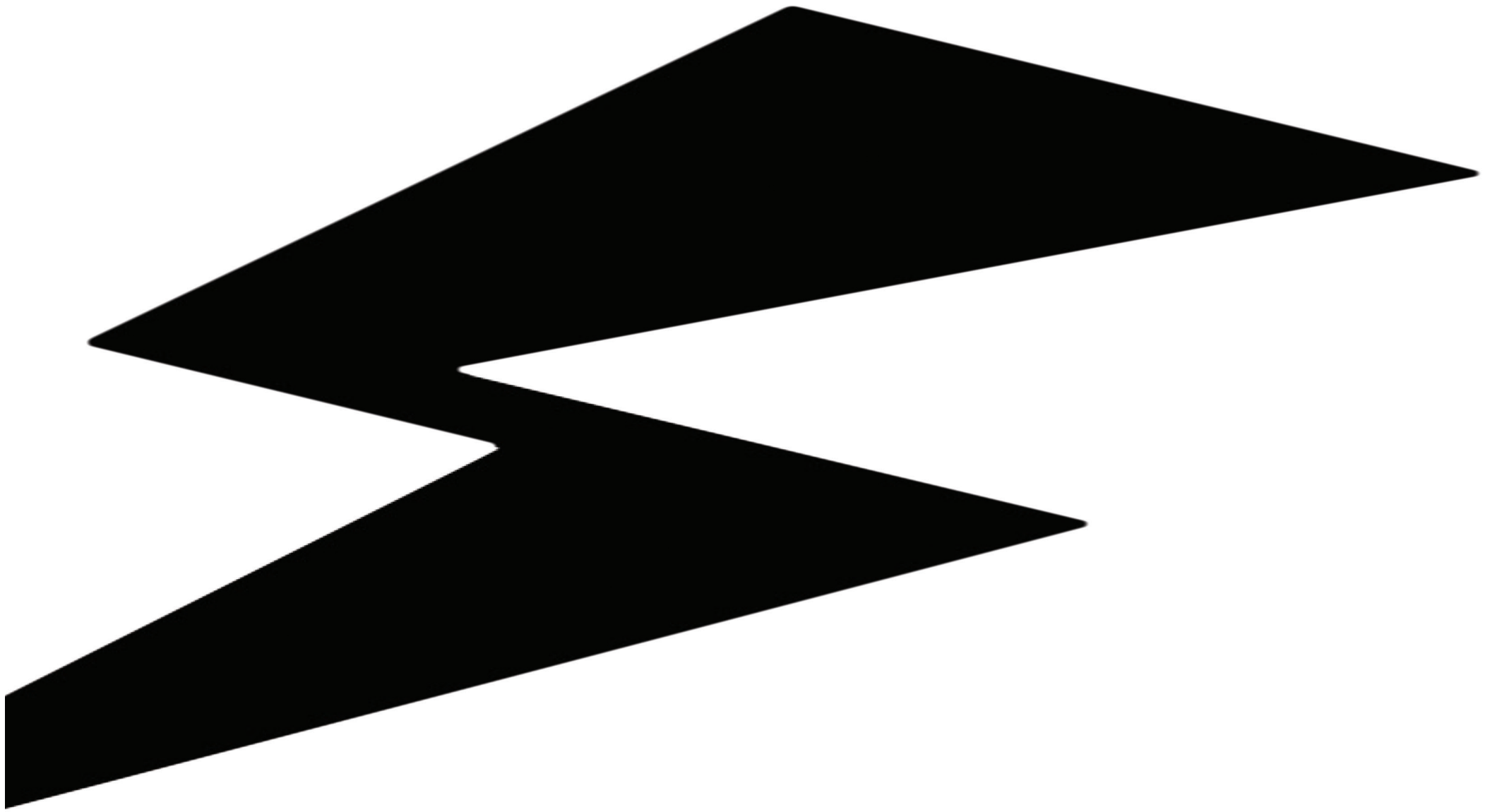
The microphone no longer reaches, he drops it, the sound causing those still left to look as he continues to the top step and onto the platform.

Silence.

THE SPECIAL GUEST moves to the edge of the platform and looks straight ahead, his eyes shining.

THE SPECIAL GUEST believes he can fly. He leaps.

Cut to black.



Installation view, *The Grand Alliance* at Quick Millions, London, 2016

Installation view, *The Grand Alliance* at Quick Millions, London, 2016

Installation view, *The Grand Alliance* at Quick Millions, London, 2016

Installation view, *The Grand Alliance* at Quick Millions, London, 2016

Detail, *The Grand Alliance* at Quick Millions, London, 2016

Detail, *The Grand Alliance* at Quick Millions, London, 2016

Detail, *The Grand Alliance* at Quick Millions, London, 2016

Conversation between Jenna Collins and Dean Kenning
London, April 2016

Jenna Collins: One of the first things I was doing after art school was working with streaming video, this was in 2000, before it was really practical. We were a group of about ten, supposed to be training people on how to use the internet, email, SoundEdit 16 etc., and doing projects on the side including live streaming from our building in Manchester every Thursday night. One thing I remember was that we only had one video card between us so all the computers were open with their guts spilling out in order that you could attach this thing to the inside and do some work. But I wouldn't dare to go into my Mac now.

Dean Kenning: It would invalidate the warranty! That's what people love about Apple, what made them so successful was that they created that pure operating system that you never had to go into, they've just give you a sort of surface. It reminds me of that image you end up with, that black box in scene two, which is a sublime object in a way, sucking itself in. It's a completely narcissistic object, which is impenetrable to any form of representation or knowledge about it.

JC: The screenplay is based upon a student essay called, HDTV: The Engineering History, written by four students doing, The Structure of Engineering Revolutions course at MIT. The course last ran in 2001 and the website is not in use, you can't get to it from the main MIT website but it is still there. The essay was group written by four students who use the black box as a metaphor a few times, even when it isn't particularly appropriate, and it seems to have some sort of romance for them. They use it to describe the way in which the eight companies that developed the US HDTV standard (AT&T, Bell Labs, GI, MIT, Philips, RCA, Sarnoff and Zenith) worked together, which was to take on different parts of the problem and present the end result but not the workings. It meant they could keep as much a secret as possible and patent it. So as well as being the black box being impenetrable object with only ins and outs, the students use it to describe a way of collaborating, a really paranoid way of collaborating.

DK: And a way of protecting your profit. You could say all sorts of areas of life are becoming black boxed. I think it has seeped deep into how we interact with the world on an ideological level. The whole basis of behaviourist psychology is basically a black box – inputs and outputs. We will get rid of the modelling of the psychic structures, how emotions function, how we have unconscious desires that position us intersubjectively, it doesn't matter, what matters is how we can change behaviour – external outputs. So that the concept of the 'black box', that came from electronic engineering and cybernetics in the 40s and 50s was almost immediately taken up, in effect already the model for behaviourist views on animal learning, and went on to have a profound influence in human psychology. The Turing test is all about eliminating the mechanics of what's happening, either with the machine, or with the human, and you simply have the question of does it fool you into thinking it is human. And if it does, that means it is human, which is a very particular, limited way of thinking about what is human intelligence!

I wasn't sure how much of the actual speech, of The Guest Speaker, how you actually put that together. Are they actual words spoken by anyone or was that kind of artistic license, creation from some other source or bunch of sources?

JC: The basic historical narrative came from the student's essay. It's an unattractive source as far as archival sources go, it has little authority or romance and it might well be factually wrong; I don't know what grade they got. But it is a document about the historical development of a technology, on a ghost website for a discontinued course about how technologies come about. I love that looping and I realise that if I did the course (all the materials are there) I would do a better job of reading the website as an historical source, or assessing its worth, and why did the course close? Or did the name of it just change? I still have lots of questions about that.

The speech moves through the chronology in the students paper in the correct order, but I think it the screenplay shows very quickly that I am not an historian! I get bored with those sorts of specifics and I have tried to give that impatience a form in the screenplay in a couple of ways, quite literally in scene one where the direction in the left column ways, quite literally in scene one where the direction in the left column tells us, 'our focus begins to drift'. I use Stuart Brand's, The Media Lab (1987), in a couple of places to tap into the atmosphere of what has become known as the Californian Ideology, a hybrid of cybernetics, free-market economics and the counterculture, selecting phrases where it is revealed in its viciousness. The relentless certainty about the rightness of technological progress runs through everything I read in industry, engineering and consumer sources. The line, 'if you're not part of the steamroller you are part of the road' is from Brand's book, which is an enthusiastic account of what was going on at the MIT media Lab in 1985 and an attempt to predict what the future would be like based on the technologies they were developing. Brand himself is interesting. He was one of the Merry Pranksters described on page on of Tom Wolfe's Electric Kool-Aid Acid Test, 'Stewart Brand, a thin blond guy with a blazing disk on his forehead too, and a whole necktie made of Indian beads. No shirt, however, just an Indian bead necktie on bare skin and a white butcher's coat with medals from the King of Sweden on it.' Brands hippy provenance is part of what makes his predictions, or report on the future based on Media Lab activity appear benign, which I don't think it is, but his book produces a feel of MIT and the excitement of the time.

DK: It's funny, I heard the steamroller quote just a few days ago, in Roger & Me by Michael Moore (1989) and it's about the guy who is shutting down a General Motors factory. I'm sure it's that quote, he doesn't acknowledge it, but it's a great quote. It is so brutal. So what were people predicting?

JC: Well, the Internet, smart TV's, the guardian online, all that normal stuff. And there was a lot of hologram activity, which I really got into. I find the problem of making a hologram work as an image interesting in that where it most often fails is in the viewer; they need to bob around and squint because the light is the wrong sort or in the wrong place, and it means that the technology is being let down by it having to be seen by eyes! I bought a few holograms on Ebay and have been photographing them, which made me laugh as that obviously misses the point, but actually the photographic images of the holograms are full of detail and mood, and although the colours are pretty horrendous, they are alluring in a way that the holograms are absolutely not. You can buy them, people still make holograms and as far as I can see it's a load of taxidermy, snakes and owls and because they are difficult and expensive to make they are used on passports and money, things like that.

DK: I remember in Forbidden Planet in the 80s they had one of Judge Dredd, a big head- size one, it was really impressive.

Virtual reality is coming back now, it's almost like a 20 year gap between the promise of immersive games and stuff, around in the 90s and they just stayed quite crap because the computers weren't fast enough to process the information, the turn of your head you know, and now it seems like they've got to that stage. In the meantime, they've had very specific functions in science and medicine for example, and military as well. The combining of atoms to form new chemical compounds, and using virtual reality for that really old-fashioned reason that doing stuff with your hands is much more intuitive so you're able to make new connections. It is this the same thing as geometry being a clearer way of understanding patterns than abstract mathematics is because there is that sensual immediacy, it's partly why I'm interested in diagrams, it allows you to do those things.

JC: I have been really enjoying thinking about invention, making stuff up in the way you're talking about, by moving existing things around. I looked at the logos of the companies that made up The Grand Alliance as well as the governmental bodies involved and found you could reduce the logos quite easily into three elements; pillars, gridded globes and electricity spikes. I really like the idea that if you put them in a diagram it puts them into relation with each other and potentially other things, you can move them around and it's a way of getting hold of the ideas that the logo is meant to stand for, but also the other things inadvertently attached to them, like motives.

DK: Those icons are also impenetrable aren't they, they have a fetishistic quality of having a kind of life, that all you can do is passively lie back and be penetrated, (that's a terrible word!) by these things because what can you do with them? You're not really supposed to do anything with those things are you, they just penetrate your consciousness some-

how, modify your behaviour in certain subliminal ways. They are trying to convince you of their authority.

JC: For the installed part of the project I am cutting the reduced logos out of wood and attaching them to a load of chairs. The chairs are cheap IKEA ones, a group of about 20 to stand in for the different groups of people convened by the screenplay and my one concession to prop making. It forces together the world of logos with the world of furniture which already has a diagrammatic aspect to it in the way that furniture layout maps social relations, head of the table, speaker etc. but also that they are mobile and different configurations are inevitable. So the logos become chair decorations, not very elegantly made because I made them with my consumer power tools.

DK: It's like getting some control over these things through humour.

JC: Yes, they have become phallic and ridiculous, but also they look like a fun crowd and crowds come up a lot in this. The MIT students who wrote the essay and who are the basis for the student group in the scene three; the amateur inventors, coming up with solutions to the call for HD designs in their garages, perhaps imagining they are Bill Gates style entrepreneurs and about to make it big but are actually producing strange objects that describe what they think HD might be, could be. Then there are the professional electrical engineers who remain aloof, and the sales guys, the punters and finally the audience of the screenplay, who are the only group that I don't have control of.

DK: I liked your juxtaposition between the speech and Lewisham Shopping Centre, your focus on the audience; they seem very excitable and slightly aggressive, very cultish, like a religion or something and they have an element of being very Ayn Randian. They are cheering for the idea of the market being the destination, where you would achieve full democratic contact with the people. And then there is this shift to Lewisham. Can you say something about that?

JC: The shopper's comments come from 'Behind the Lines', a 1985 consumer TV programme that was on ITV. A group of TV professionals; directors, newscasters, Fern Britten, were sat in a studio and shown the Japanese HDTV system, which was significantly more advanced than anyone else's. They then proceed to tell the viewers about the amazing quality as it cuts to images of the Japanese television screen, but of course the viewers couldn't see the higher quality because the studio cameras, broadcast system and home sets weren't good enough, so the professionals try and explain the difference and struggle with ways to get it across with words, my favourite line described it as, 'the Harrods of television systems'. I love this absurdity, this catch, because it means the image is withheld and so the image is still free somehow, still part of the imagination and not a demonstration of a tech spec. I also liked the specifics of what they were concerned about, Beirut and the hairs on a girls face.

DK: So there is a discursive framing of HD being valuable. What do the guys writing the essay say about HD being important; do they say anything about that?

JC: In the industry sources the imperative to keep producing new products is unquestioned, they students are looking at the complex of forces that go into shaping developments, but do not question the development itself. HDTV was possible much earlier, as is shown by the Japanese system, but there was no reason to risk the profitable market as it stood. Then came a threat to have the unused bandwidth given to mobile phone companies, the deregulation of competition rules under Reagan and the convergence of computers and television on the distant horizon and other pressures and opportunities meant the television industry was stirred into action.

DK: It's way all kinds of things operate, its about the complex networks that come into play; laws changing, funding flows, company take over's, or whatever it is, that never really gets discussed very much. The way that there is an ideological image of the entrepreneur, Steve Jobs in his garage, a college drop out, and then we have a downmarket version of that with Dragons Den where someone describes their terrible idea that nobody really wants, or needs, and is not going to improve the lives of anyone, or benefit humanity, but if it is believed they can make a profit then that would be it.

JC: And it all appears so inevitable on the outside. And that is one of the things that I think is important, it really is not inevitable, and that those decisions have effects and consequences, that are political but don't look like it. It is felt as inevitable which is depoliticising. I asked Professor Tim Ellis of the Computer Science & Mathematics department at Kingston University whose works on ways of tracking people using CCTV about how electrical and computer engineers go about developing such capabilities. He described broadly two approaches, the artificial intelligence route which thinks about cognitive functions, and then there is the engineering method which is about finding a solution for specific problem.

DK: You find that in politics all the time, a technocratic approach to politics. We do this, because this is what works, which means you don't have to look at inequalities, or class divisions, or the operations of power, or who it works for, simply, someone determines what the goal is and the technocrats engineer the solution.

JC: Regardless of the chaos it might cause elsewhere, and the new thing will get bolted on. With the engineering approach to computer vision, they start out with one bit of code, and when they need it to do more they just add it on top.

DK: That's very EU laws or something.

I was thinking about this with regards to art education, and I was thinking that you are identified as the producer, and it's that level of control that you have as a producer, which is quite powerful actually. And I wonder, what you're describing in terms of MIT, in terms of the mechanics of invention and creation, is there something seductive about that?

JC: I was interested in finding out if the infrastructure of the technology world mirrored that of the art world seeing as they both have claims on invention and creativity, not to say that an engineer does the same thing as an artist of course, but I thought that the infrastructure might be comparable. I asked Proffessor Ellis what a lab was, you've got Bell Labs and the MIT Media Lab, and the A.I. Lab and so on, but what are they? There are the rooms with bunsen burners and glass tubes of course, but it is also used as an institutional name that has a certain cache which helps with building reputations and gaining funding, more so in the US. And I was interested in finding out what the pecking order was, I asked him a few questions and he was helpful, but I think he thought my questions were daft. I was probably too impressed that he had visited the MIT Media Lab because obviously that is just an incidental footnote in a successful career, but he mentioned that he had sorted out the seating space in Kingston after his visit to MIT. I sat in it while waiting to meet him and it was not a very sociable space, the comfy seats were sort of lined up, and there was a large smelly bin next to my head, and there was terrible graffiti on the breeze block wall. I might well be remembering it as worse than it was and doing him a disservice, but I am pretty sure it wasn't good.

DK: I was thinking of MIT as some sort of avant-garde collective endeavour, there are individual inputs and a few scattered geniuses, but there is a bigger picture, contributing something valuable, on the cutting edge of technology. But that it was a sort of bottom up affair in terms of the physical spaces.

JC: I wonder how that compares to artists spaces in the UK in the '80s, I wonder how that has changed?

DK: That's an interesting question. There is a sense now that higher education is very bound and corporate, precisely because there are other criteria that are determining the look of these places; the branding, the marketing, whatever it is, the experience you are selling to students and the need to try to enter into partnerships with other institutions or businesses.

JC: The Media Lab of the mid '80s was funded by big companies, IBM, Warner Brothers, ABC, NBC, Polaroid, Lego, Apple and so on, and by government via the Defence Advanced Research Projects Agency (DARPA). In the 1986-87 financial year, sponsorship was $6 million, compared to the $1 million from MIT itself.

DK: You might imagine these companies were investing in the vision of these people and so give them a free hand in determining these things. It has become a bit of a cliché hasn't it, like Google, where everyone hangs out, eats jelly babies and plays ping-pong. It all becomes a generalised exercise in the most efficient use of staff within creative environments, but, the way you were describing Kingston is a good example of what we all already know, which is that environments are really, really important, which is why we come to the South Bank, because there is something amenable.

JC: So you think about Google and what it means is that lots of horrible offices now have a ping-pong table in the corner.