The Bone Cannot

The following text is formed from a conversation between Eyal Weizman [EW] and the artists Adam Broomberg & Oliver Chanarin [AB & OC] on 27 September 2015.



Fig. 1
Sir Benjamin Stone, 'Skeleton of a Pygmy'
Natural History Museum, Kensington, London, 1907
Platinum print from a collodion negative
Sir Benjamin Stone Collection MS 3196
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AB & OC

The portraits in this book were produced by advanced facial recognition technology that is being brought into use, as we speak, in cities around the world. Software engineers in Moscow developed the technology from an existing system built to recognise car number plates. What first sparked our interest when speaking with these engineers, was the technical challenge they faced in producing what they call 'non-collaborative portraits' – where the subject is neither consensual nor necessarily aware of the camera. These portraits, essentially three-dimensional data maps rather than photographs per se, form a digital archive that can be rotated in space on a computer screen. There is never a moment in the capturing of the 'image' when human contact is registered; the subject's gaze, or any connection between photographer and sitter that we would ordinarily rely on in looking at a portrait, is a complete fiction in this space. What we're seeing is the negation of that humanity: the digital equivalent of a death mask.

We know that forensic pathologists can accurately reconstruct a person's appearance from the skull alone, and looking at these eerily disembodied portraits it's impossible not to think about the underlying structure beneath the face's surface. We all share a basic facial configuration that allows us to identify other people – even ourselves when we look in the mirror: two eyes, above a nose, above a mouth. These are the only points on the face that the Russian engineers were concerned with capturing.

The eight plate-like bones of the cranium, the fourteen facial bones, the placement of cavities and overlaying facial tissue all bring about varying differences in



Fig. 2
Sir Benjamin Stone, 'Skeleton of a Chimpanzee'
Natural History Museum, Kensington, London, 1907
Platinum print from a collodion negative
Sir Benjamin Stone Collection MS 3196
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appearance, and we possess a remarkable capacity to discriminate almost instantly between large numbers of faces in our everyday lives. This process is one of the most important functions of the human visual system – not only for successful social functioning, but for our survival too. We've read about rare cases when this breaks down. Prosopagnosia or face blindness is a selective deficit in face recognition that usually results from neurological trauma; sufferers are unable to identify themselves or others from facial stimuli. Interestingly, the study of individuals with prosopagnosia has informed the design and functioning of facial recognition systems like the one we encountered in Moscow. The point that interests us is when the natural and instinctive human ability to recognise faces is appropriated and utilised by the state and its machinery, and perhaps even improved.

Your extensive research on the application and implications of forensic study within the forum of human rights has shed light upon the subject of bones; the relationship between the human skull and the skin both physically and ideologically, and so we were curious to have your thoughts on this new surveillance technology. We want to explore where this technology has come from along with its potential impact; what it means both for the future of portraiture and more broadly for citizenship itself.

EW

When the first X-rays were invented in 1895 Wilhelm Röntgen, whose work with electromagnetic radiation led to the discovery, spoke about being able to peer into his own death. In fact, it was his wife's death he was

pre-empting: upon taking the first X-ray of his wife's hand, he commented that he'd already seen her dead. By using a photographic plate to track the pathway of the electrical rays, Röntgen was able to capture this evidence and to make visible the internal structure of the human body without surgery. One year previously in 1894, archaeologists exhumed a skeleton believed to have been that of composer Johann Sebastian Bach from outside the Thomaskirche in Leipzig. Popular interest in the composer had increased, and the public wanted to know which of the bodies that were buried in the mass grave there was actually Bach's. Eleven skeletons were exhumed and the skulls separated. Swiss anatomist Wilhelm His was called upon to help identify the skull believed to be Bach's. His had started developing a new kind of skull/face relation, using needles to measure the depth of facial tissue from medical cadavers and a clay like material to build up the face from existing bone structure. Not only was he able to claim that he had successfully identified the composer, and a neat grave was put within this church (the place I go with my family for Christmas) but he also laid some of the groundwork of what would eventually become forensic anthropology.

Skulls are haunted things; the traces of a subject's life are difficult to erase from them. Because of this, skulls embody a complex relationship between object and subject, image and materiality, presence and representation. These dialectical positions also bring to mind Hegel's essay *The Phenomenology of Spirit*, his discussion of physiognomy and phrenology, and his famous claim that, 'the spirit is a bone'. Hegel contrasts physiognomy – where the gestures and grimaces of the face form part

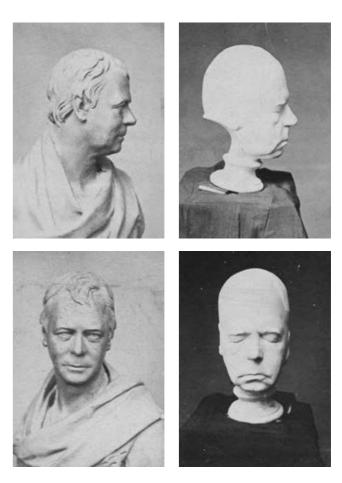


Fig. 3
Photographer(s) unknown, 'The Untruthfulness of Modern Portrait
Painting, Bust and Statuary Sculpture Illustrated in Portraits, Statues and
Busts of Sir Walter Scott Compared with Casts from his Head', c. 1870
The Papers etc of William Costen Aitken of Birmingham, 1817–1875
Albumen prints from collodion negatives, MS 3060/1
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of language – with the 'science' of phrenology, in which the materiality of the skull stands for some essential truth about the subject or his or her kind.

Physiognomy, in Hegel's eyes, completely fails, as the subject is forever betrayed and perverted by facial representation, but phrenology shifts the problem from representation to material presence. Hegel's account of phrenology is more ambiguous than we'd sometimes feel comfortable to admit: he states that from a certain standpoint, the spirit is not ethereal or transcendent but mediated in materiality (in bones, in our case), while also considering it to be false: he ridiculed nineteenth century phrenologists' belief in a linear and direct relation between human character and the physical shape of the skull. However, precisely because the skull does not and cannot represent the subject it is the perfect expression of the spirit in the material world. The spirit, forever elusive, can thus only be captured in the inertia of a rigid, dead, debased kind of object.

Both face recognition and forensic anthropology make an argument regarding the truth of identity – the subject – in the relation between bones and faces – the former seeks to identify the shape of the skull under the 'image' – in this case the skin and tissue of the face – and the latter makes the inverse attempt: to reconstruct the murdered or missing person's face from the form of the skull. Whilst both disciplines might resemble phrenology's obsession with the shape of the skull, neither forensic anthropology nor face recognition seek to pass judgment on the subject, each merely uses the skull to identify the individual, discover what happened to them, and to determine whether other forms of violence are implicated.



Fig. 4
Photographer(s) unknown, 'German or Teutonic Types' and 'Cape Colony'
C & F W Dammann, Ethnological Photographic Gallery of the Various
Races of Men 1873–4
Albumen prints from collodion negatives
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AB & OC

The links you've made between physiognomy, phrenology and contemporary facial recognition technologies are disturbing. There is the same ominous preoccupation with types and classification. The history of photography has always run concurrently with these technologies and narratives. The archive of photographs collected by Sir Benjamin Stone in the second half of the nineteenth century, now housed in the Library of Birmingham, is in many respects, exemplary.

Stone began buying and commissioning photographs in the early 1860s to provide visual evidence which supported his interests in history, science, nature and cultures. This activity reflected the widespread Victorian craze for collecting cartes de visite of celebrities and more significantly, the use of photography as a tool in the West's imperial and colonial project: to map, classify, know, control and exploit colonial resources. Photography studios mass-produced, copied and commercially distributed images depicting all kinds of subject matter including the anthropological and record images that Stone and others assembled; themed albums with titles such as Local People of Note, Works of Art in Foreign Museums, The Ottoman Empire, Types of Feminine Beauty and Types of Races of Mankind. These images were collected whilst touring abroad or simply purchased from print sellers and distributors at home. These same types of images were also made available alongside interpretive texts in commercially produced ready-made albums such as C. F. & W Dammann's Ethnological Photographic Gallery of the Various Races of Men (1873–4).

Like most assemblages of anthropological and ethnographic images created at that time, Stone's albums

reflected his concerns with notions of race, social Darwinism, physiognomy and phrenology, crudely dividing the world into deterministic categories. He studied these images alongside related texts, publications, objects and specimens in his library: a room which simultaneously served as cabinet of curiosities and a private museum. Stone commonly exhibited photographs from his collection and used lantern slides made from them to illustrate public talks and lectures. In the mid-1880s, frustrated by the limited supply of photographs in circulation, Stone subsequently took advantage of new photographic technologies which enabled him to take his own photographs. These were made, read and presented within the same intellectual framework that defined his collecting activity.

Album number 50, *Types and Races of Mankind*, which includes images collected between 1870–83, is typical of these impulses. It includes what might be considered 'non-consensual' images. Despite commonly adopting the conventions of portraiture, these images were not primarily made for or commissioned by the sitters. They were primarily created and circulated for the scrutiny and surveillance of others. The organisation of the images within its pages clearly reflects the nineteenth century colonial project to categorise; according to ethnicity, social hierarchy and physical characteristics. 'Native', 'Coolie' or 'Servant' etc... The goal appears to be to draw a safe distinction between superior civilised cultures and inferior counterparts; the law abiding and the criminal; the beautiful and the ugly.

Elsewhere in Stone's archive, photographs he made during a visit to the Natural History Museum in 1907, which include his umbrella and top hat as indicators



Fig. 5
Photographer(s) unknown, 'Africa / Algeria'
Types of Races of Mankind, Photographs Collected
by Sir Benjamin Stone, Album 50, 1870–1883
Albumen prints made from collodion negatives
Sir Benjamin Stone Collection MS 3196
© Library of Birmingham

of scale, witness his own anxieties about the risk of ambiguity – of scale and interpretation – inherent in the images he was producing and collecting. We were shown and struck by another series of images commissioned by William Costen Aitken, a contemporary of Stone. Aitken used the exactitude of the camera to present arguments about the failure of paintings, busts and sculpture to create a truthful likeness of Sir Walter Scott. What is the ideological link between Stone's activities, the photographs he and others collected and produced, and the digital images produced by the facial recognition technology that we encountered in Moscow? How do these documents remain so charged, and why do they resonate so strongly within this new technology?

EW

Physiognomy and Phrenology, the twin pseudo-sciences developed in the eighteenth and nineteenth centuries, are both exemplified in archives such as Stone's. These scientific 'advancements' were used not only for racial identification, but also as a means of prediction: a certain way of looking into the future. In 1878, the criminologist Cesare Lombroso published L'Uomo Delinquente [Criminal Man], in which he had measured the faces of 383 lawbreakers to create an exhaustive record of criminal types. This catalogue could be used to assist with conviction of criminals, but also to prevent or pre-empt crimes from occurring by enabling police to recognise and intercept future criminals before they performed their deed. Alphonse Bertillon, whilst working for the Paris police force in 1879, developed an anthropometric system, with particular focus on the measurements of the face and head.

His was not a predictive practice, however, the police force used his system to create a huge number of records comprised of various anatomical measurements, fingerprints, and full-face and profile portraits: what we now know as 'mug-shots'.

So phrenology is a way to peer under the skin and into the bone; to peel back a layer of wilful expression – that has potential to deceive – in order to reveal the unchanging underlying structure of the bone, where the truth lies. This idea reflects the eighteenth century understanding of culture by people such as Jean-Jacques Rousseau, say, who saw in culture a distorting and corrupt veil, a surface of manipulation, behind which nature, more noble and true, exists. The shift to the bone signified a certain unveiling, stripping down to essence, in the double meaning of the term.

Face recognition technology is an attempt to capture and archive individual likeness.

Specifically, there are two types of face recognition algorithm: one is pictorial and the other is spatial or topographical. Pictorial algorithms, the older of the two, look at two dimensional images and their composition, flattens the image and looks for matching points: eye proximity, length of nose, cheekbones, forehead, and so on. Pictorial face recognition becomes both problematic and interesting once we introduce camouflage. Every form of capture obviously leads to an attempt at evasion. One of the most famous cases of people thinking that they were evading pictorial algorithms is the Mossad assassination of Al-Mabhouh in Dubai in 2010. Israeli companies sold Dubai the two dimensional version of the face recognition software. So its agents camouflaged their faces to



Fig. 6
Photographer(s) unknown, 'Chinese'
Types of Races of Mankind, Photographs Collected
by Sir Benjamin Stone, Album 50, 1870–1883
Albumen prints made from collodion negatives
Sir Benjamin Stone Collection MS 3196
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evade the capture of its algorithms. With that software if you draw a very prominent beauty mark on the face, the algorithm is likely to fail, even though the naked eye could immediately identify the person. Therefore a new generation of face recognition algorithm began to emerge, looking at the face as a three-dimensional reality – or at a face stretched upon the topography of the skull, so to speak. It was sold by another company to Dubai, the Mossad's face camouflage failed, and allowed the local police to expose an entire network of dozens of agents.

The 3D method reconstructs the spatial contours of the face by taking two photographs or by comparing two photographs from two slightly different perspectives – this mimics the way in which our eyes work. Other versions work with laser scanners. At that moment something interesting happens: we see the beginnings of the technology that led eventually to the kind of images that you have created, but, and this is important: it's also a return to the skull. The idea of using skulls for identification and classification in relation to crime has thus evolved with contemporary technology. The theory is that whatever exists on the surface of the skin is seen as a potential camouflage, but that you cannot in fact change the underlying bone structure beneath the face – or not easily. So we return to the famous words of the great gravedigger and forensic anthropologist Clyde Snow: 'bones make great witnesses - they never forget and they never lie.' It also implies that the living face can lie: the face is a wilful expression of an identity; you can smile, you can apply camouflage to it, you can fake your facial expression, whereas the assumption is that the truth

is locked within the passive materiality of the bone. Snow, of course, with his science of Osteobiography – the biography of the bone, the biography of an object – was trying to reconstruct the past, he studied lives lived and that life registered in the texture of the bone. In that sense the bones are like a photograph exposed to all influences of a life – temperature, labour conditions, illness, nutrition and so on like a negative is exposed to light. It is a slow and long exposure.

Photography obviously still records not only the subjects that are aimed at but narrates the history of the science and technology that allowed such images to be created and disseminated. It is both the constantly shifting technology of photography as well as the cultural scientific biases that are enmeshed and trapped together in the archive. The photographs from the Birmingham archive and your contemporary examples of Russian faces demonstrate this; in both, scientific ideas are performed opening up the entangled and co-constitutive relation between technology and ideology – the theories of race and colonial ideology in the Birmingham archive and an offshoot on the long war on terror in yours. This compliance between ideology and technology resonates in the new archive that you've created.

AB & OC

It's no coincidence that the images from Benjamin Stone's archive were created during Britain's Imperial Century. The role of technology in Stone's time was no less important than it is now. The steamship and the advent of the telegraph system reinforced Imperial strength, allowing the state to control and defend its domain. By 1900, the British Empire, comprising of



Fig. 7
Photographer unknown
Types of Races Resident in Mauritius and Reunion (Bourbon)
Photographs Collected by Sir Benjamin Stone, Album 27, c. 1874
Albumen print made from collodion negative
Sir Benjamin Stone Collection MS 3196
© Library of Birmingham

roughly 400 million subjects, was linked together by a network of telegraph cables, the so-called 'All Red Line'. Technology has always been driven forward by the pretence of security, and the same argument drives the global surveillance industry today. But while technology may have advanced, the rhetoric remains remarkably and insidiously archaic, seemingly with grave implications for individual and global human rights.

One of many examples is the Stasi archives, which were only made public online this year. We see a toxic strategy at work whereby the state is able to gather information about and against its own citizens. It's an invisible threat that is impossible to push back against, and recalls the Russian surveillance technology that we encountered, in which the state, an omnipotent force, is utilising technology as a form of reconnaissance, and stripping the individual of agency.

EW

3D face recognition technology presents a very different relationship between the skull and crime than the one described by phrenology, which leads us to examine of the crucial temporal dimension of phrenology. Beyond a classification of race and type, it seeks to peer into the future, to pre-empt a crime before it will have taken place. Phrenology embodied the first attempt to invert the temporal order of forensics from a study of the past to a study of the future, of risks, probabilities and possibilities of events occuring. What does this inversion mean?

For forensic specialists looking at the past skulls are evidence for the identification of unknown bodies and also for establishing the reason they have become dead bodies; they bear the traces of crimes that took place: a bullet hole, a machete, stab or axe wound; evidence that something has happened. For phrenologists the skull is a unique kind of bone, like no other, because it captures the relation between mind and body – different kinds of formal modulations captures mental faculties – therefore, presumably, it also captures tendencies, hidden violence, inclination to lie – the 'thief-type', the 'murderer-type' and so on. It is thus not only a way to look into the past, but also a certain crystal ball one can peer through into the future.

This determination of type does not mean that that person has already committed the murder or theft, and most likely they haven't, or won't ever do. The phrenologists of Edinburgh saw themselves as progressives and suggested a certain care should be afforded as a mean of pre-emption – but the racists that revived phrenology 50 years after it was discredited as a science turned it into justification for murder and genocide.

As you say, this is something that we would likely dismiss as long gone, or existing only in films like *Minority Report*, because it's the foundation for racial theory, ie. the idea that there is an inferior race, a race with criminal tendencies, a race with tendencies to manipulate or to lie. In this case eliminating people before they commit their crimes might appear as a reasonable strategy; the children who are victims during genocide are not killed because of any crime they have perpetrated, but because of their potential to do so.

We would like to think that this model is long gone, but in fact the inversion of forensics from the past to the future is now the most important type of forensics

exercised by the state. All countries that are fully and physically and actively engaged in what used to be called the 'War on Terror' practice the principle of pre-emption, because terrorism is seen as the kind of crime that can not be deterred and by the time the risk forms it is too late, and it therefore needs to be pre-empted before it happens. Any beginner terrorist mastermind knows that 'important' operations must employ operators without any criminal or terrorist track record. These are crimes perpetrated by people that have been innocent before they took place and dead immediately after the event, the transition between innocence and death is so short, almost instantaneous, so the states perceive their task as needing to look into the future because the past cannot be mined and the present is too short to tackle.

The future is thus inhabited mathematically: the inversion of forensics exists in looking at relation between a large multiplicity of things and actions and people, and in their patterns – that is their form of repetition creating a shape – a shape that for our purposes will be analogous to the shape of the skull. These are not the physical patterns of bone structure versus height versus brain size; rather these are patterns in repetitive behaviour and movement through space – say the correlation between credit card activities, flight bookings, movement along specific roads in a 'toxic' site – in Yemen or Somalia or Pakistan, say, or being in particular places along with other specific people whose pattern shape is 'toxic'. These are the kind of patterns that would allow spy agencies or military bodies to determine the probability of a certain action to 'immanently' materialise. This probability



Fig. 8
Photographer unknown, 'Prepared for Driving Out, Winter, Russia', 1870
Albumen print from a collodion negative
Sir Benjamin Stone Collection MS 3196
© Library of Birmingham

is established according to specific calculations and algorithms within models that most closely resemble economics and financial modelling. The financial sector has developed multiple tools and algorithms of prediction, but in this forensics of the future it is the State, rather the investor, that has absolute power, and what is exercised is an execution which is not a purchase. State agencies performing targeted killings are also regulated. These internal regulations, whether observed or not, would allow for an agent to perform targeted assassination in anticipation of a crime under the jurisdiction of the executive branch, rather than for the retribution or punishment for one that had already happened, which is the role of the judiciary.

Targeted assassinations happen in those frontiers because (or so the state claims) there's no possibility for the police and the framework of criminal law to operate there. These zones lead to the shift from the judiciary, where criminal law looks to the past, to the State, whose decision looks to the future. There are clear guidelines and rulings by legal bodies - such as the legal advisers to the Pentagon, the British MoD, or the Israeli Supreme Court - that targeted assassinations are permitted only if there is no longer the possibility to arrest, to bring to trial and convict a person, for what they have done. In the United States this principle hinges on the category of 'immanent threat' - an inherently elastic category that involves the necessity for 'pre-emptive self defence': you're not allowed to kill, even Osama Bin Laden, for what he has done – it's irrelevant for legally authorising an operation. This legality is specific only to the State's own judiciary bodies - not those of international

law. The only relevant determination is the risk still posed for the future: a search for a crime that has not yet happened. So there's a threshold created – and of course it would be in the interest of state agencies to create the conditions that would allow for targeted assassinations. Beyond that threshold there is no possibility to peer into the past, to present evidence, to conduct *habeas corpus*, or have a fair trial, because all of those possibilities do not (presumably) exist, and so another possibility opens up: that of killing legally with a hellfire missile. The closing of the judiciary doors opens another door into the future – and this future always implies death.

So we find ourselves in a reality analogous to phrenological principle of prediction looking at various patterns and form to see into the future. The future is the domain of the algorithm and mathematics as I mentioned.

I'd like to return to the correlation between the face and the skull. Thomas Keenan and I have written about this in relation to Josef Mengele's skull, and the way in which the German pathologist Richard Helmer reconstructed Mengele's face from an exhumed skull in 1985. Helmer took the skeleton that was suspected to be that of the notorious Nazi physician and, using techniques similar to those used by Wilhelm His, he calculated and then physically plotted the contours of the facial tissue. Helmer then overlaid projected photographs of Mengele onto the recreated facial topography, successfully confirming the identity of skull. What the viewer sees is a two-way motion: building upon the skull to create a face, and stripping the face to reveal the skull. The algorithms built into



Fig. 9
Photographer unknown, 'Railway Guards, Chief Guard and Assistant, Moscow', c. 1870
Albumen print from a collodion negative
Sir Benjamin Stone Collection MS 3196
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three-dimensional face recognition systems are related to the algorithms devised by forensic anthropologists in order to identify unknown bodies, missing people in mass graves, before DNA obviated this physical task, and the skulls once more became like any other bone, no longer privileged, superseded by the simple carrier of the code.

What is performed in your work, to my understanding, is the super-imposition of a two-dimensional photograph onto a three-dimensional topographical object, based on the skull morphology. In the technologies that you have identified and used, there is thus a reflection on something very elementary within the history of photography, and also in the history of debates about the relation between photography and object and between face and skull – this is why composing an archive such as this becomes a mode of interrogating the future before it is materialised.

AB & OC

Thinking about the human face, of portraiture and the defunct histories of physiognomy and phrenology, it's impossible not to also think about August Sander, who set out to document the society around him during Weimar Germany, after the end of the First World War. He starts with the wholesome person who works on the land, he then moves on to employed people – the Banker, the Baker – and then he progressively moves on to the Poet, the Artist, the Artist's Wife, and then to more marginalised people: the Unemployed, the Vagrant, the Revolutionary, and ends with 'The Last People', comprised of a single portfolio documenting 'Idiots, the Sick, the Insane and Matter.' The last of these categories, 'Matter', is possibly the most

illuminating for our purposes – these were photographs of the dead, one male, one female, followed by a single final photograph, 'Death Mask of Erich Sander, 1944', Sander's son. This image is stripped of any background context, the mask floats in empty space, eerily reminiscent of the portraits in this book.

Sander was determined to show a full and complete record of Weimar society but unfortunately his project was interrupted by the Second World War and the rise of Nazism. There's a moral tale embedded in his project that even Sander could not have foreseen. Incomplete at the time of his death, his archive has been subjected to a constant re-reading and re-presenting. On the one hand it's a heroic attempt to capture and preserve an image of a society reeling from one destruction and on the brink of another; on the other hand his portraits take on a new and sinister meaning when seen through the prism of Aryan supremacy, itself built on the foundations of colonial rhetoric of superior- and sub-human hierarchies.

We see disturbing parallels of this totalitarian regime in present-day Russia: from the threat of imprisonment where individuals to all intents and purposes disappear from society to the illegal annexation of whole countries, and the kind of assassination plots so brazen and sensational that you would think they could only exist on a film screen. And all with relative impunity.

Our portraits of bankers, revolutionaries, bricklayers – all people we found on the streets of Moscow – closely consciously mirror Sander's *Citizens of the Twentieth Century*. But instead of using an 8 x 10 inch plate camera we have used a machine built for facial

recognition in public spaces. Nevertheless, we have followed Sander's particular divisions of labour. For example, we photographed Yekaterina Samutsevich, one of the imprisoned members of Pussy Riot to replace Sanders 'Revolutionary'. Our Poet was the conceptual writer Lev Rubinstein, who composed many of his famous 'note card poems' whilst working in the Lenin Library in Moscow. The titles formed the framework for the way our book is structured, but that framework raises a broader question about the way this archive of faces fits into the annals of photographic history.

EW

I think that Russia is an interesting choice in relation to the Weimar Republic – both are societies in transition that are fighting for their identity under serious threat and the reality of authoritarian repression, resistance and activism. It is also interesting because of a tradition of dissidence through art. Art was a kind of retreat from the overarching state-political macrocosm into a micro-political autonomy. August Sander operated at a time where fierce and rapid forces of modernisation threatened to – and in fact did – tear Germany apart. The beauty is that there could be a subversive or a regressive reading of his classification.

AB & OC

When we began our engagement with the archive at the Library of Birmingham we encountered a strange impasse. The archival material is housed in hermetically sealed vaults on the fifth and sixth floors of the library. Controlled by an air-conditioning apparatus that sucks out oxygen and replicates high altitude conditions, like standing on top of a mountain, this artificial environment helps minimise the risk of fire inside the archive and so helps ensure the long term preservation of objects held within it. It's known that periods of extended exposure to this environment can cause shortness of breath and dizziness and staff must therefore first undergo medical clearance before being allowed to enter. We, as members of the public, were unable to freely roam the stores because of these restrictions. We were therefore reliant on the knowledge, memory and catalogues built up by generations of staff to access material. It struck us as ironic, because the thing we keep returning to, time and again, is the ominous spectre of the archive itself. It always seems to come down to a question of access: who is controlling the archive, who is compiling it and using it, and to what ends.

Allan Sekula wrote about the archive in connection with the operations of power that regulate the social body, placing the development of photography in the context of the emergence of policing and technologies of surveillance. You mentioned Bertillion earlier, whose work perfectly illustrates Sekula's arguments, in its attempts to regulate social deviance by means of photography, and Sekula also touches upon Sander's work as employing these same repressive mechanisms. It's difficult to extricate the final result of these archives from the intentions of their maker or makers; yet their very preservation leaves them subject for constant revision. These collections, far from being inert documents tucked away in dusty boxes in forgotten rooms, harbour an insidious power. In some ways, we're still facing the same impasse we felt when we began this project – there's a loaded

sense of responsibility in the use and creation of archives such as this, and there's a sense that it's unstable ground; that it could backfire.

EW

Any archive can be read against itself. The archive is a tool, and the minute you create a tool it could be used in many ways: it's out of control of its makers. Any archive can also be used against the people that made it – evidence is always in excess of the process for which it was prepared and presented. Excess is one of the characteristics of photography and of reading images. Different questions can always be posed and those questions will be different at every historical conjuncture, with a different political constellation around that question. There's potential power lying dormant in every photograph. Once a photograph has been used in a particular way and returned to the archive it has the potential to be read again, its potential will always be in excess of the particular history that produced it.

A key concern in the presentation of this series of portraits that you've made in Russia is whether or not to include the name and 'type' of each individual as an accompanying caption. The colonial archives and the police archives of Bertillon obviously did not include individual names because what is looked at is a type, but Sander includes both the reference to the individual's place within society, and on occasion, also names his sitters. In Sander's work there is a tension between singularity and type – and both exist simultaneously. Today we are so committed to the idea of singularity that type gets rejected, but in Sander's Weimar-era images the sitters are both irreducible individual –



Fig. 10August Sander, 'Death Mask of Erich Sander, 1944'
© Die Photographische Sammlung/SK Stiftung Kultur August Sander Archiv, Cologne; DACS, London, 2015

the singularity of a face and posture – and generic type – the effect of the caption. Both those things belong to different vectors pushing out in different directions.

This illustrates a paradox inherent to photography: more than anything else photography captures singularity, but that singularity once recorded is also a manifestation of a type – of ethnic, gender, sociological, or economical nature – which is captured in the relation between your clothes, your facial expression, your facial hair, and so on. This becomes a straightjacket that is hard to escape, but one that we must escape. Still, there are fissures, new readings and new modes of observing that will allow for each classification to break down and create space for new ones to emerge. The name, when it is provided in the caption, was a representation of a singularity that in the Weimar years pushed in the opposite direction than the designation of the type, which the modernist state machinery needed in place to govern. Today the situation is obviously different – state agencies look not for groups but for individuals, deviants and 'unpredictables'. State security operates in the thresholds.

Face identification exists at these thresholds, initially at the entry point of a building, but now also at state borders – a concept that has itself fragmented and splintered into a multiplicity of physical and optical apparatuses. The border is also a legal threshold, a liminal space where the judicial body has less power, and decisions – about entry, for example – are made by the executive. The algorithms used to determine access across a given threshold are instruments of risk management, and are based on the creation of risk profiles. The risk calculation regarding potential 'threat' has

two parts: the first follows the same economic model as we discussed previously with regard to the inversion of forensics – when was the ticket purchased? On which credit card was it bought? Which stamps are in the passport? – and secondly, as you cross the threshold to any securitised state or institution, you need to be photographed.

This photograph becomes an essential part of a large network of recorded factors that would determine your risk profile. In this sense the border of a state – at an airport say – is similar to the 'lawless frontier', the illegalised zone, for example between Pakistan and Afghanistan, in Yemen, in Somalia, when actually the executive power supersedes the judiciary. Whereas in the former border, sovereign decision might pertain to denial of entry, in the latter case it relates to killing.

There is also the material question: the tension between the two-dimensional and the three-dimensional aspects of a photograph, the peeling back of the skull from the face. What I see in the archives you have created is the wrapping of the photograph, like a skin or a foil, onto an object. The result is a document that ultimately exceeds the photograph: it has become a documentary sculpture which is a three-dimensional object that is instant representation. This new type of object operates between presence and representation, and comments on the history of photography in more than one sense. From portraiture through the death mask to the documentary sculpture, the archive you have created, like much of your work, is hacking into the source code of photography. The documentary sculpture returns us back to the skull, and the 'truth' underneath the face.

The photographs you have produced with contemporary border technologies connect the idea of immanence with phrenology and physiognomy. The skull is perceived as a crystal ball, through which we will see both the past – evidence and traces of life lived – and the future, i.e. the risk to come. Making these images three-dimensional brings us back to the skull itself through the death mask; like Röntgen, you are peering through these faces into the death of the subject, photographing something that is simultaneously both dead and alive. Photography, after Barthes, is always about death and this work in particular hovers between skull and face, and the threshold between death and life and the crime that separates them.

Schtick Fleis Mit Tzvei Eigen*