Crafting an Industrial Narrative

An exploration of material and meaning in industrial sculpture.

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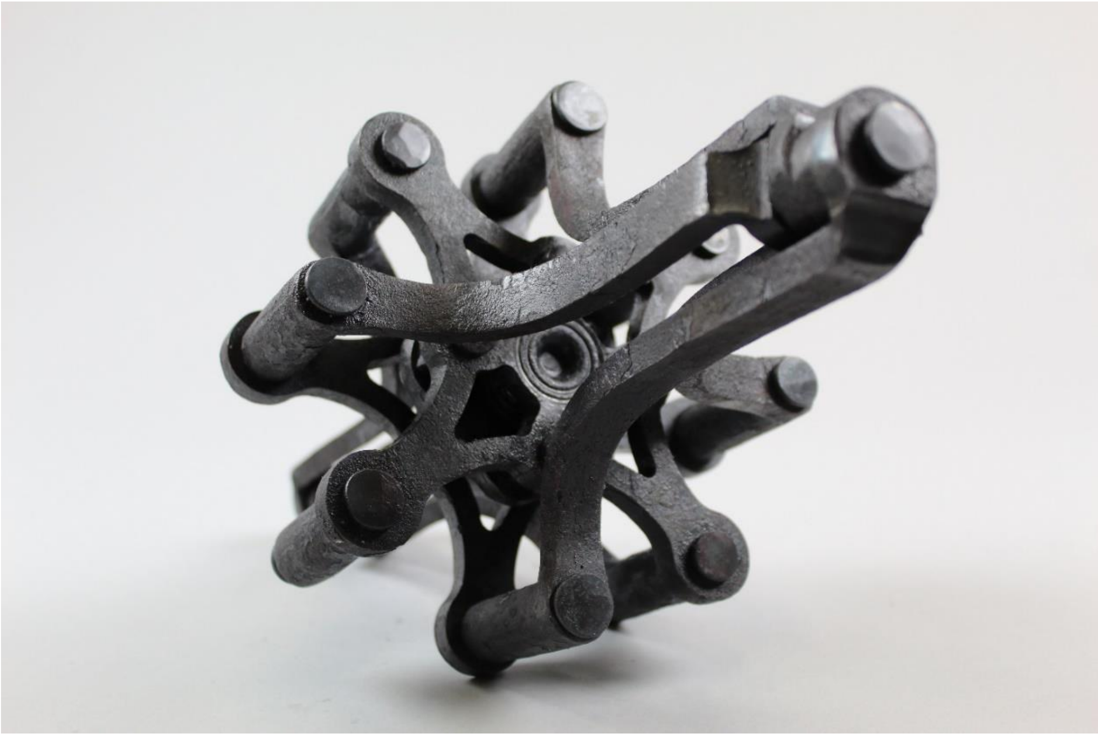

Figure 1 - Brân Davies, Conduit, 2025. Practice 5 Industrial Response.

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Introduction

Industrial locations are fascinating: their machinery and architecture holding aesthetic pleasure and functional wonder. Starting my final degree year, I visited numerous industrial settings, immersing myself in decaying relics and modern-day production plants. Exploring buildings and exposed steelwork fostered curiosity regarding functions and uses. My responses (figures 1 and 2) aimed to recreate this expression of purpose through form, representing the features I find visually appealing. Principally inspired by aesthetic, I utilised common forms and iconic signifiers to construct my responses. Visually I am pleased with the outcomes; however, there is a sense they are purely aesthetic responses, not delving deeper into industrial functionality or meaning.

This essay stands as a research counterpart to my emerging practice, exploring other artist's industrial responses to determine if encoding meaning is necessary. It discusses the pioneering works of David Smith and contemporary blacksmiths Pete Mattila and Will Maguire, using Charles Sanders Peirce's typology of signs to identify and categorise methods of industrial response and signification. Building on interviews with Mattila and Maguire, my research is informed by theoretical works of academics including Jules David Prown's studies on material culture, Howard Risatti's discussions on function and form in craft objects and Ezra Shales' definitions of craft. Also considered are the viewpoints of art critics, including Robert Slifkin's writing on David Smith, and Susan Sontag's Formalist view.

Figure 2 - Brân Davies, Transmission, 2025. Practice 5 Industrial Response.

Methods of Interrogation

Typology of Signs

This essay's analytical approach draws from American philosopher Charles Sanders Pierce's model of codes creating meaning. Pierce suggests a triadic relationship of a sign (figure 3), consisting of: *representamen,* the form in which the sign is given; *interpretant,* the sense made from the signifier; and *object*, the larger concept it refers to (Chandler, D. 2007 pg29).

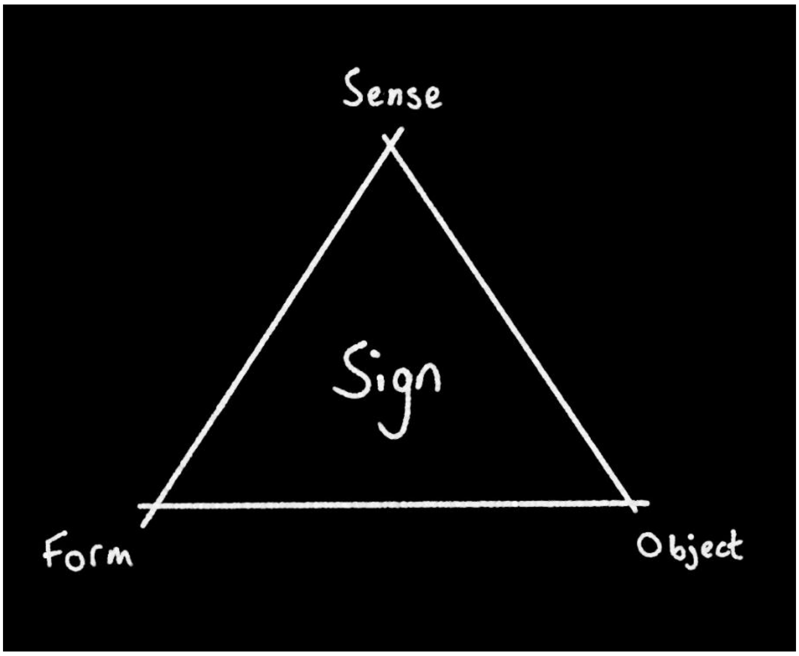

Figure 3 - Peirce's model of a sign.

However, the more pertinent aspect of Peirce's model for this analysis is a classification between forms in which the signified is given: a typology of signs. Peirce categorised signifiers as symbolic, iconic or indexical.

1. "Icon/iconic: a mode in which the signifier is perceived as resembling or imitating the signified" (Chandler, D. 2007 pg36-37). Iconic signifiers share a direct sensory resemblance with the signified: clouds may be signified by cotton wool, as both appear white and fluffy.
2. "Index/indexical: a mode in which the signifier is not arbitrary but is directly connected in some way (physically or causally) to the signified (regardless of intention)" (Chandler, D. 2007 pg36-37) without which the sign would not be created: smoke is an indexical sign as it is directly created by a burning object, and if the fire were extinguished, the smoke would cease.
3. "Symbol/symbolic: a mode in which the signifier does not resemble the signified but which is fundamentally arbitrary or purely conventional" (Chandler, D. 2007 pg36-37), requiring they be learned or experienced: the social convention that green represents good and red represents bad.

Arguably, many examples of crafted objects contain signifiers of all 3 modes of signification. Within this essay, for the purpose of investigation, each mode will be used as a 'lens' for analysis, focussing on their material relevance.

Cultural Perspective

In *Style as Evidence* (1980), Jules David Prown asserts the superiority of craft objects in generating meaningful connections with the past. Physical responses have sensory qualities enabling the audience to empathise with their creators, “to see with their eyes and touch with their hands” (Prown, J.D. 1980). Craft objects of significant historical distance, or those responding to the past, provide windows into historic cultures, removing us from present society. However, our present socio-political standpoints suffuse our interpretations of the past. In analysing works we must recognise our biases, regarding criticism with caution and consideration (Prown, J.D. 1982).

Within cultural relativism, this essay also explores *appropriation*: “the act of borrowing, stealing, or taking over others’ works, images, words, meanings to one’s own ends” (Sturken, M. and Cartwright, L. 2009 pg432). In many of the following examples of industrial response, artists utilise materials, forms and processes of industry in their works, creating new uses and meaning. Of great significance in this essay, particularly in the work of David Smith, is Claude Lévi-Strauss’ ideas of a “*bricoleur* who creates improvised structures by appropriating pre-existing material” (Chandler, D. 2007 pg205). Bricolage, or “working with whatever materials are at hand” (Sturken, M. and Cartwright, L. 2009 pg433), enables found materials to carry complex iconic forms, allowing clever appropriation of objects.

L’art pour l’art – Industrial Formalism

“Formalism is the study of art based solely on an analysis of its form – the way it is made and what it looks like.” (Tate, 2017)

Another stance informing my essay, contrary to the encoding of signs, is that of artistic formalism. Writer and critic Susan Sontag argues the importance of art rests in sensory engagement and enjoyment, not intellectual dissection of form. That “the function of criticism should be to show *how it is what it is*, even *that it is what it is*, rather than to show *what it means*” (Sontag, S. 1966). Viewers of art should not search within it for meaning, rather just enjoy beauty (or disregard non-beauty). Indeed, Gabrielle Kezia argues that for the viewer interpretation can lessen the value of the physical interaction (Kezia, G. 2023).

This critical outlook focuses on the material characteristics and compositions, regarding physical attributes only, those which are directly engageable by the senses (iconic). From the formalist viewpoint, artworks should be regarded for their colours, use of line and shapes, extended within blacksmithing and sculptural metalwork to include auditory, olfactory and tangible features.

Section 1 - Iconic Industry

Industrial and Functional Aesthetic

The first 'industrial aesthetic' emerged from the Industrial Revolution and resultant shift in socio-economic values and culture of the late 19th century. With technological advancement and mechanised production, artists and designers wanted to "celebrate the beauty of industrial materials, and prioritise function over ornamental design" (White, A. 2024). It could be argued industrial aesthetics inherently denote a 'functional aesthetic'. Industrial aesthetic is often characterised as that of old factories - large spaces with a visual density of exposed steel and brickwork. A functional aesthetic arises from objects and spaces appearing to have a particular role to fulfil, a use or location within a larger 'working' mechanism. However, Risatti stresses "usefulness and function are not necessarily the same" (Risatti, H. 2007 pg23). A flathead screwdriver used as a chisel may be 'useful', contrary to its design. That is, "the use to which something may be put may change, but its originating function always remains constant" (Risatti, H. 2007 pg26). This idea of change of use, with remnants of historical function, is evident throughout this essay; appropriation employing this fundamental principle.

Industrial architecture and machinery predominantly focuses on production and use, inherently possessing aesthetics of function. Analysis of early works was hampered by the paucity of theoretical analyses of instruments and machines, highlighted by Prown's 1982 work *Mind in Matter*, in which he notes "Little writing has been culturally interpretive except on the automobile" (Prown, J.D. 1982). Fortunately, Risatti's *Function and Aesthetic Expression* (2007) brings a new opportunity for analysis. He suggests functional form inevitably incorporates a stylistic form which arises from present cultural trends and values (Risatti, H. 2007 pg231). Even in designing tools solely for utilitarian function there are stylistic decisions regarding materials, manufacturing techniques and user interface. Risatti claims "preference… is a decision founded on a desire for signification" (Risatti, H. 2007 pg230). In arriving at a finished functional product, the designer's preferences inform the making of the tool and impact the outcome.

$$Industrial \rightarrow Functional \rightarrow Sylistic$$

Risatti further emphasises the importance of the object's audience. Whereas aesthetic is important in a crafted chair, it is less relevant in industrial machines and tools. Chairs would be seen in a home, whereas industrial machinery and tooling is purely designed for functionality, rarely intended to be 'seen' beyond its purpose. Within this lies industrial formalism, the idea that "intention to signification and intention to function are vastly different" (Risatti, H. 2007 pg225). An object can have a use and engage the user's senses, but not need to 'stand' for something else.

The industrial responses within this essay embody functional and stylistic forms with "a life as both physical objects and as social objects" (Risatti, H. 2007 pg231). We interpret stylistic form through the aesthetics of the objects, which possess iconic signifiers of industrial settings and machinery, often creating a recognisable stylistic form, alluding to an implied function.

In dealing with industrial signifiers I question whether historical iconic signifiers will become 'icon-symbolic', still possessing the direct visual link, but requiring knowledge of the aesthetic amidst a decline in 19th and 20th century industry. In progressing with industry, the appropriation of process for craft may drastically change the crafted outcomes, requiring contemporary blacksmiths to revive this style of production and the resulting aesthetic.

Section 2 - Indexical Material

A Brief History of David Smith

David Smith's distinctive style emerged from his early career as a painter. In 1926, at the Art Students League, New York, he experienced cubism and the works of Mondrian and Kandinsky. At the change of the decade, Smith experimented with collage, incorporating "shells, bones, wood, and wire into his paintings… transforming them into sculptural reliefs" (The American National Gallery of Art, 2025). The pivotal shift from canvas to steel came "upon seeing reproductions of the first welded constructions of Pablo Picasso and Julio González" (Stevens, P. 2018). Having worked as a welder and riveter, Smith saw an opportunity to combine his industrial experiences and arts practice, and by 1934 began constructing "innovative and remarkably diverse sculpture from used machine parts, scrap metal, and found objects" (The American National Gallery of Art, 2025) (figure 4). Becoming recognised in the late 1930s, he suffered a creative interruption, producing machines of war in a Schenectady tank factory (Wagner, A. 2021) for the Second World War, although these industrial experiences certainly influenced his outcomes.

Figure 4 - David Smith Welding "Primo Piano II", 1962.

Industrial Material

Steel production was industrialised in the 19th century, leading to standardisation of steel sections for ease of production and usage. Possessing vast material knowledge, Smith pioneered the integration of welded metal and industrialised steel in art, and with an innate understanding of metal forms "sought to re-enchant the industrial world" (Slifkin, R. 2008).

Throughout history steel usage has been driven by functional necessity. Prior to industrialisation, sourcing raw materials and smelting steel were labour-intensive and costly, limiting use to tools and weaponry. By Smith's time, this utilitarianism meant steel possessed "little art history. What associations it possesses are those of this century [1900s]: power, structure, movement, progress, suspension, destruction and brutality" (Smith, D. in Tate, 2022). With his anti-war stance, this violent material signification could have dissuaded Smith from its use. However, his industrial training and learnt techniques fostered a new understanding and style of metal sculpture (Wagner, A. 2021). By appropriating post-war industrial materials, "Smith sought to humanise modernisation through a decidedly craft-sensitive approach" (Slifkin, R. 2008). In a growing modernist trend, with artists visualising "a world entirely recreated in terms of the machine" (V&A Museum, 2017), Smith countered industrialisation with industry itself. This profound new style of sculpture, often-times visually similar in composition to Picasso and González, resembled a three-dimensional industrial cubism. However, Smith's work, in a combination of materials, forms and techniques not previously seen together in the art world spanned many different genres. Perhaps his style should aptly be named '*Smithism*', a defining pivotal movement in metal sculpture.

Figure 5 - David Smith, Suspended Cube (1938).

Early in his career, with an interest in cubist and constructivist abstraction, and a desire to explore the integration of steel into art, Smith embodied the *bricoleur,* taking found materials and modern steel section, and disguising "their previous use, so that they lost their original identity and became another neutral element in the completed sculpture (Solomon R. Guggenheim Foundation, 2019). As seen in *Suspended Cube*, 1938 (figure 5), it is challenging to definitively identify individual, scavenged components within this industrial bricolage. Appropriated and given new meaning within the sculptural context, there is a potential loss of iconic signification. The components are no longer recognisable from their industrial past, losing an immediate visual connection to their previous location and use. However, there is an induced indexical signification to industry with the reclaimed steel plate and sections physically linked to their industrial origin.

In the late 1930s, particularly for *Suspended Cube* (1938), the indexical signifiers of the material itself, the torch-cut edge quality of the plate, the beads of weld, and treated metallic surface finish all serve as indexical signifiers of its creation. However, in Smith's time, these produced direct iconic representations, these indexical marks rarely seen anywhere but in the booming industrial trades.

The initial reception of Smith's work is likely to have been different from the present day as "meaning… is dependent on the position in time in which it is seen," (Barnard, M. 1996, in Andrews, S. 2008). Due to increasingly digitised and automated manufacturing, the icons of past industry have changed. With advancements in metalworking technology, and many modern designs obscuring or even removing the indexical signs of creation, steel has become a much sleeker, 'engineered' material, different from the raw structural and tool-use of the past (figure 6).

Figure 6 - Modern steel framed building.

Therefore, at the time of creation, Smith's obscuring of components in his sculptures only led to a generalisation of industrial signification, removing specificity of origin, but retaining a prominent general aesthetic. The bricolage of materials forms indexical signs of the locations, the results of industry. However, through their integration into art forms their meaning has changed, retaining indexical process but acquiring an iconic aesthetic.

Smith's appropriation of industry and "desire to communicate through the language of industrial form" (Slifkin, R. 2008) led to a shift in reception. Welding and industrial steel sections are now commonplace in sculpture and art providing the contemporary blacksmith with another medium for artistic expression.

The Modern Smith

Contemporary artistic blacksmithing occupies a unique area of art, drawing from deep roots as a heritage craft, but bringing forth progressive industrial influences like those of David Smith. Along with the advent of standardised steel profiles in the 19th century came specialised equipment to work the steel. The growing "demand for metal machine parts led to the development of steel machine tools," (Everts, V. and van Lynden, P. 2019) further improving steel working capabilities within industry.

With machinery to aid the forging process and pre-formed section readily available, contemporary blacksmiths can push the boundaries beyond that which was possible in pre-industrialised forging. Power hammers and hydraulic presses allow smiths to work larger stock for longer (figure 7). What may have required a team of strikers (which in solo workshops is not possible) can now be forged by machine. Nevertheless, within this technological appropriation for craft, the delicacy and control of the smith is still critical in operating the machines and choosing stock for designs. Risatti argues the skilled hand of the crafter is the source of quality (Risatti, H. 2007 Pg14). Within crafts, it is the material and process decisions of the craftsman that allow for the creation of meaning and value.

Figure 7 - Pete Mattila Forging with Power Hammer.

As practitioners of a 'traditional' craft it is common to dismiss technological advancements as "artificial" (Shales, E. 2017 pg97), straying from the sense of craftsmanship. In bringing welded metal into sculpture, David Smith caused consternation among traditional artists, who denounced his innovative approach as 'radical' and 'crazy'. Similarly, in contemporary blacksmithing there is animosity from some traditionalists towards electric arc welding. Whereas the oxy-acetylene welding of Smith is now a well-regarded skill, potentially a craft in its own right, electric arc welding, which has largely superseded oxy-acetylene in industry, is dismissed by many traditionalist craftsmen. However, defining craft is not easy: "it seemingly stands in opposition to the construction methods and materials of the industrial era, yet it denotes manufacture" (Shales, E. 2017 pg7). Certainly, for Smith, his industrial skills were crucial in creating his sculpture.

Similarly, Pete Mattila, an artist blacksmith in Tasmania, uses industrial section and welding in his work, but maintains a deep, craft-based knowledge of material. Interestingly, through his practice there is a total disregard for the industrial signification of modern materials. Mattila sees the industrial profiles as opportunities "for new form development that can be achieved through the vocabulary of the hot working processes" (Mattila, P. 2025). In his Battery Point Studio, Mattila has detached himself from the confines of 'craft' (figure 8), his only concern being the transformative journey from stock to sculpture. Using heavy machinery, he still emphasises the enormous skill it requires to use the machines (Mattila, P. in Westbury, M. 2015). Indeed, the industrial processes directed by the hand of the contemporary blacksmith are chosen not solely for their ease and repeatability, but to enhance the work. In his large-scale piece, *Offerings* (2022) (figure 9), Mattila implements channel section for the main uprights, tightly bending the material known to "boast robust strength and durability" (BMSteel, 2023). What could appear as a comical, juxtaposing use of steel, in the eyes of Mattila is anything but.

Figure 8 - Pete Mattila plasma cutting heavy steel plate.

The initial signification of materials is not what is important; it is the succession of techniques applied to it and the discovery of forms and textures that drive meaning in his work, echoing Risatti's belief that an object's meaning is tied to the making process (Risatti, H. 2007 pg14). Mattila shares the age-old fundamental of blacksmithing, a fascination with material movement. Finding that in "the heat of practice ideas form, conceptually and physically... while searching for new forms in a space of unknowns is when things are revealed." (Mattila, P. 2025).

Figure 9 - Offerings by Pete Mattila.

In terms of practice, Mattila and Smith bear many similar ideologies. They share a belief that practitioners of traditional crafts should not reject technical innovations, rather endeavour to "embrace industrial knowledge" (Mattila, P. in Westbury, M. 2015). In both the work of Mattila and Smith, industry is appropriated, reclaimed and repurposed, giving life and emotion into otherwise stagnant, industrial materials. In *Offerings* (2022), the channel is playfully manipulated, exploring how its iconic flanges contort around the tight bend. This explorative playfulness is characteristic of Mattila who often considers "what happens if I do this?" with the results becoming part of his compositions. (Mattila, P. 2024). He allows the transformative nature of blacksmithing to guide his work along a "constant discovery process" (Mattila, P. 2024), oftentimes allowing the material itself to dictate outcomes, creating indexical significations.

Section 3 - Political Symbolism

The study of signs as a whole are devised from cultural and social theoretics. In encoding meaning within a craft object, the signification and stylistic choices are socially determined (Risatti, H. 2007 pg79). “Every means of expression used in society is based, in principle, on collective behaviour or on convention” (Saussure, F. in Risatti, H. 2007 pg79). By this understanding, every sign is considered symbolic, requiring cultural and societal knowledge to decode. With the disappearance of industry, symbolism has a respected role in supporting communities coping with the resultant changes. Building upon artists’ work with industrial materials, fascinating outcomes have been achieved when they are granted permission to use decommissioned industrial facilities as their creative workspaces. Will Maguire and David Smith have both responded to this opportunity.

Industrial Location

The LiddellWORKS creative project followed the announcement to decommission Liddell power station in New South Wales, Australia. Ensuing a “smörgåsbord of pulverised or shredded piping” (Hannam, P. 2023) and growing environmental concern, the station was set for closure and ceased operation in April 2023. However, respected for having long-powered homes and businesses, mixed emotions among workers and local residents engendered the need for a creative response. Following the decline in heavy industry in Thatcher’s Britain, Miskell, Orange and Almond-Brown argue creative works “helped reinstate a sense of connection with industries whose physical remains were being removed from the landscape” (Miskell, L., Orange, H. and Almond-Brown, G. 2024 pg521). Whether as a celebration or an elegy, it is important to address industrial change, understanding the socio-economic impact for companies but more importantly the workers and local residents. Hence LiddellWORKS was developed.

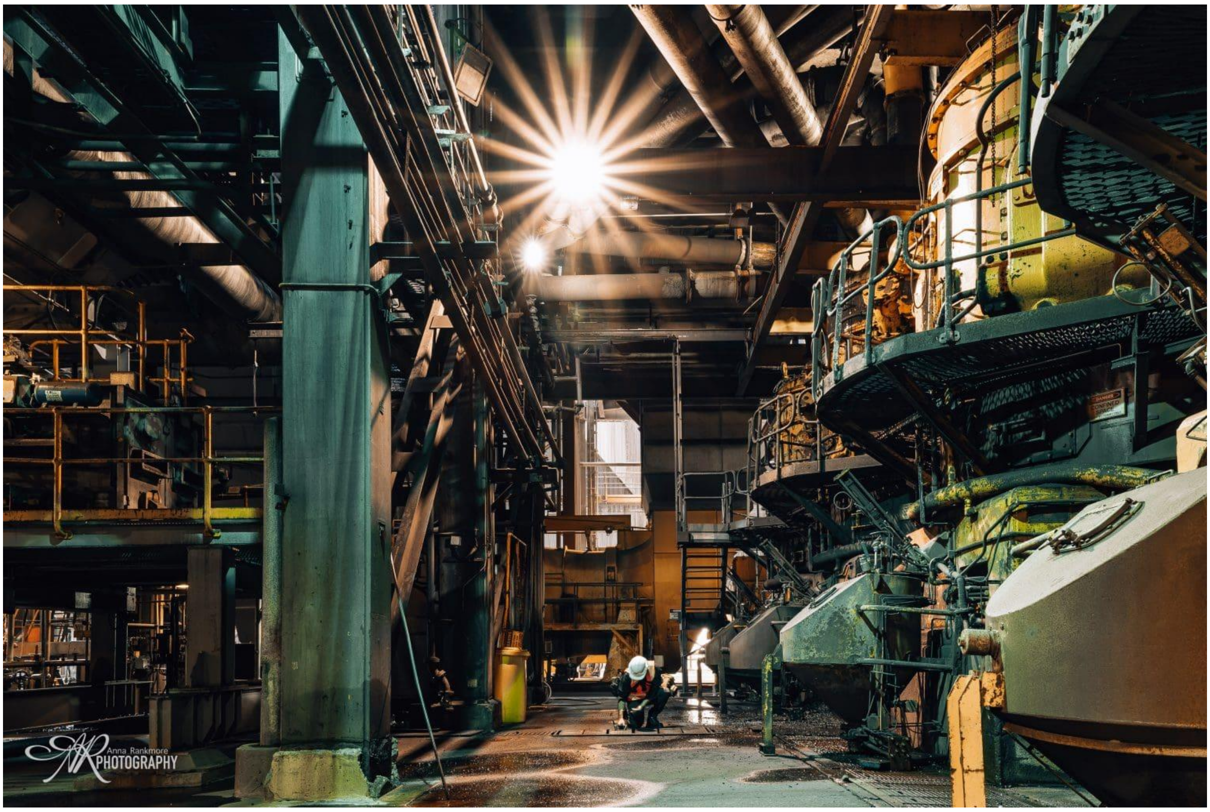

Figure 10 - 'Lilliputian' Liddel Power Station.

Sixteen artists working in different media were selected to respond to the closure of the station, visiting before and after decommissioning. Will Maguire, a contemporary blacksmith working in Hunter Valley, was one such artist. Appreciating that industrial buildings "are often gigantic practical and beautiful spaces" (Maguire, W. 2024a), Maguire identified rich narratives of process, culture and worker's livelihoods. Even in empty shells of factories, with fragments of long forgotten machines, there remains an intrigue: what is/was its function? How does it work? Why? For whom?

Visiting Liddell at the point of change from functioning to forgotten, Maguire recognised the dialogue between artist and place is a close one, the act of forging sharing "parallels with Liddell's act of burning coal to produce power (Maguire, W in LiddellWORKS, 2024). Exploring the power station (figures 10 and 11), Maguire identified an "almost sublime Lilliputian element about unseemly large buildings filled with pipes and machinery often so specialised and particular" that he could only think of the "magical and the unlikely" (Maguire, W. 2024a).

Many similarities can be seen between LiddellWORKS and David Smith's *Voltri* series. Invited by the Italian government in 1962 to create work for the Festival of Two Worlds in Spoleto, Italy, Smith was given access to abandoned Italsider factories near Voltri, whose buildings where "empty of people but filled with the remains of an artisanal level of production" (Krauss, R. 1983) (figure 12). As an innovative metal-artist, possessing a sculptural vocabulary which "resided in industrial forms" (Slifkin, R. 2008), much of the industrial architecture and machinery resonated with Smith's artistic practice. He already saw the large-scale tooling and equipment as sculpture in themselves" (Krauss, R. 1983).

In the same way, having previously worked as an industrial blacksmith and boiler maker, Maguire initially approached the LiddellWORKS project with a material-led intention, such as Smith did in Voltri. Having industrial training and practising a rich, material-based craft allowed Maguire a certain confidence within the setting, a familiarity with machinery, scale and risk, even if distinct from past location. To him it seemed fitting that the material nature of Liddell was the initial angle of engagement, responding in a way that "tied into my experience" (Maguire, W. 2025).

The stage of disuse of the industrial locations however, provided two very different experiences and, therefore, outcomes at Liddell and Voltri. Caught in the midst of the shutdown, Maguire experienced the shift in activity of the power plant, from bustling, noisy, daily life to the stilled decommissioning. For Smith, the Italsider factory was discarded and forgotten, still and lifeless.

Figure 11 - Decommissioned Machinery inside Liddell Power Station.

Figure 12 – David Smith at the Italsider Factory, Voltri, Italy (1962).

Craft as Engagement

Art theorist and author Glen Adamson advocates for artisanal practices, seeing value in socially engaged craft. In *Fewer Better Things,* Adamson describes craft as a "verb rather than a noun… a motive force in shaping the world… a deeply meaningful activity" (Adamson, G. 2018). The value and meaning rests in the engagement with materials and designs, and one's own expression through them. Perhaps this is why in Smith's work it can be difficult to uncover the intended meaning in certain sculptures, whether born from material experimentation or a desire to signify a greater socio-political concept. However, the meaning "you create can be personal and need not have an apparent interpretation for all who view them" (Solomon R. Guggenheim Foundation, 2019). It is certainly possible that for some of Smith's work the meaning was solely personal, focused more on his desire for creation in steel than an outward signification.

Conversely, LiddellWORKS embraces human responses, capturing the politics of the shutdown through material explorations. For present-day smiths such as Maguire, contemporary blacksmithing holds potential to address wider issues. Evident in much of his work "there is more to this craft than the physical metalwork" (Maguire, W. 2024b). Noted by Niedderer and Townsend, small scale artisanal crafts have a massive weight in dealing with "economic-political, creative-technical and human-social" factors (Niedderer, K. and Townsend, K. 2011).

Figure 13 - Will Maguire (Left) running workshop for Liddell staff.

During the LiddellWORKS residency, Maguire held workshops for staff (figure 13). Engaging with the public and non-craftspeople from a place of material transformation has a "positive human benefit" (Maguire, W. 2024b), helping to present "more clearly some of the almost conflicting emotional states they embodied from regret and sentimental sadness; to hard eyed money focused; to more reflective" (Maguire, W. 2025). As such, LiddellWORKS is not so much about the present, but interpreting and unveiling the past to better define the future, reflecting the idea of Miskell, Orange and Almond-Brown that "artists working in these contexts can be considered 'memory activists'" (Miskell, L., Orange, H. and Almond-Brown, G. 2024 pg521). As Maguire himself explained, engaging with the workers "made me see some of the more human aspects of the power plant. Seeing this emotional complexity lead me to bring in the human more overtly" (Maguire, W. 2025).

His creative responses sought to "connect the often hidden action of material (eg. pipes resisting steam pressure) with the action [becoming] both perceivable and appreciable to human viewers" (Maguire, W in LiddellWORKS, 2024). From a large-scale, brutal, rigid, mechanical landscape, creating sensitive works dealing with complex human emotions can be tricky.

However, within contemporary blacksmithing, as stated by Risatti "concern with material is so important to craft that the field is categorised and identified by it" (Risatti, H. 2007 Pg15). In Maguire's work the meaning and value rest in knowing how to "arrange aesthetics, environmental impacts, meaningfulness and fulfilment within a world guided by economics, practicality and fundamental physics. It doesn't always work, but when it does, it's worth it" (Maguire, W. 2024b). In his response to Liddell, *Pressure Pipe Poetics*, I do not hesitate to say he succeeded.

Figure 14 - David Smith, Voltri X (1962).

Bricolage

In Smith and Maguire’s work at Voltri and Liddell, they utilised only the materials found on site, becoming ‘bricoleurs’. In the context of Liddell, Maguire’s keen grasp on materiality led him to use discarded and scavenged material “that had some sort of life” (Arts Upper Hunter Inc, 2024), his creative instinct settling on high-pressure steam pipes.

Maguire empathised deeply with the workers at Liddell, echoing Mattila's belief in industrial culture. Mattila describes it as "almost like a source of identity and I think it's really sad when it's lost, it damages the community" (Mattila, P. in Westbury, M. 2015). Similarly, as a bricoleur, Maguire knew his choice of materials was key in contending with the socio-political issues surrounding the closure. The appropriation of materials inherently evokes a negotiated reading, using indexical and iconic signifiers of the power station to craft a human narrative. Value "that accrues from utility will inhere as long as an object continues to be useful and can return when an obsolete object once again becomes useful" (Prown, J.D. 1982). The once strong and resilient high-pressure pipes, discarded and forgotten, have once again become useful. The material, "adopting existing signifieds as signifiers and 'speaking through the medium of things'" (Chandler, D. 2007 pg205), has burst open a conversation with the audience, ensuring the voice of the lost industry and its community will endure.

Smith similarly utilised “the wealth of extant materials in the old factory” (Guggenheim Museums and Foundation, 2006), seeing junk as a material on the cusp of signification (See Appendix C for his 1950 poem on junk). This poetic nature of scrap material carries forward to the modern day; Maguire seeing Liddell as “pipe flange heaven” (Arts Upper Hunter Inc, 2024). Certain materials’ qualities jump out at us as artists and craftspeople, their forms, weights, textures and past lives sparking curiosity and need for experimentation.

The Responses

Visually, both Maguire's *Pressure Pipe Poetics* (figure 15) and Smith's *Voltri* (figure 14) industrial responses utilise signifiers to craft an industrial narrative. Leaving enough of the appropriated material intact as visual iconic signifiers, both Maguire and Smith reform the 'junk', creating new meaning. A key similarity is the chosen surface quality. Leaving the natural rusted surface finish, and re-rusting certain areas to accentuate the oxidation, creates "an impression of considerable age" (Guggenheim Museums and Foundation, 2006). Especially for Maguire, in dealing with political issues of industrial legacy, symbolising age suggests historical significance, and for the local residents showcases its value. In similar fashion, Smith's use of industrial materials appropriated into designs had an "ability to suggest things beyond themselves" (Slifkin, R. 2008), giving viewers a glance at an industrial past.

Figure 15 – Will Maguire, Piece from Pressure Pipe Poetics .

While both share non-literal and abstracted features, *Pressure Pipe Poetics* symbolises human and emotional qualities featuring distinct forged legs and iconic 'emotional movement' such as slumped postures and positions of sadness. The kinked, bent upper sections of pipe, often-times with the pipe flanges signifying a 'head', act as metaphors for emotional states, while approaching them with humour. In relation to a human, the Lilliputian-scale legs, isolated and forged out from the lower sections of pipe, are tiny compared to the flange. One could see these pieces as symbolic responses of workers' last efforts to keep the power station running despite its aged degradation. Through playful representations of human experience in industrial settings, Maguire wished not to form any judgement, only to "reflect some of the emotional humanity that is always embedded within human constructed industries" (Maguire, W. 2025). Maguire's interaction with workers largely influenced this human approach, whereas Smith's lack of such interaction inspired works more definitively representing the industrial landscape.

Conclusion

Responding to visually complex and functionally intriguing industrial settings results in a variety of approaches and outcomes, from Smith's abstract sculpture to Mattila's functional ironwork. Through this essay, I have investigated industrial responses to determine if a deeply socio-political meaning is necessary within my work. As discovered in researching the artists, pieces and talking to both Mattila and Maguire, the underlying driving force is often the material itself. In the creation of art, "typically, people mess around with materials, select things, experimentally put parts together, rearrange, play, throw bits away" (Gauntlett, D. 2011 pg4), possibly residing in intent to mean, but not limited to this. Artists can participate in creative practice solely for the enjoyment of making, striving for arrangements of materials that are purely aesthetically pleasing to them. Pete Mattila's practice centres on material transformation, working with steel and exploring its limitations. He disregards a necessity for signification, only encoding meaning when relevant and desirable. Nevertheless, industrial responses invariably carry iconic and/or indexical signifiers through their appropriation. Bricolage of found objects, such as the works of Smith and Maguire, coupled with industrial manufacturing techniques, embed an unconscious signifier of industry, irrespective of artistic intention. Thus, symbolic meaning is often interpreted by the audience but not necessarily encoded in the creation.

Within art there can be seen a difference between representation and signification. Signification has intent to stand-for something else, whereas representation is a recreation of an aesthetic, form or style, which may create a signifier but is not implicit. It could be said for process- and materially-led artists such as Matilla their creative practice is formalist. Mattila's designs revolve around the transformation of steel, taking forging techniques and pushing their limits to explore new forms and textures. For him, the majority of his practice is centred around material and creation, only encoding an intended meaning where he deems it necessary or commissions require (Mattila, P. 2025).

Within my practice, if there are political or social issues I am inspired by then these can become embedded in my designs. Otherwise, it is about the joy and excitement of working with the material and testing new ideas; discovering the current and future technologies in working with steel (often driven and innovated through large-scale industry); and exploring and embracing new techniques, rather than dismissing them, such as my use of plasma cut forms in my industrial responses (figures 1 and 2). I believe there is far more value in the material exploration and enhanced possibilities in making forms than any possible signification of a 'greater' meaning. As such, not only am I pleased with the aesthetic of my outcomes, I recognise the meaning within my practice is in my own exploration of form.

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Appendix A

Correspondence with Pete Mattila, January 2025

When making material from side-effects of industry, like charcoal form the logged forest, or sludge from the Queens river, I really liked your transformative view, and in a way making something good and useable out of something bad. For you as the facilitator of that transformation what sort of emotional response did you get from the process? Was there a sense of reclaiming the destroyed environment, appropriating the industrial byproducts for a smaller scale artisanal purpose?

Firstly, the acknowledgment of we currently live in the age of the Anthropocene so drastic environmental change is happening by humans. Speeding up of deep time and the death of what is considered as pristine. The work is like a 'love letter' an acknowledgment or poetic gesture of this act. Also through time blacksmith have the knowledge and skill to transform elements.. both straight from stone or industrial mess. I drew upon that to make these works. It's about loss tragedy and beauty. Of course the emotional response is potent in all of this.

Contemporary blacksmithing sits in a really interesting spot between craft and industry, using industrial machinery like power hammers, presses, using angle iron, I beam and other section related to industry, but all the time being deeply rooted in a traditional and more hand-led craft. In situation responding to industry like smelting the sludge of the queens river, do you think it's almost the perfect medium to unpick the complex nature of it?

As contemporary blacksmith we define where is sits.. ultimately it's about transformation. All old stories and mythology illustrates this.. we continue the same mindset in a contemporary time.

You really beautifully incorporate the more industrial sections like angle iron, channel and I beam in your work, I was wondering does its typical structural use affect where it might feature in designs? I think it's Offerings with the bent channel, it's arranged vertical and straight with the textured and forged elements coming across, was this mainly an aesthetic decision or was there a particular meaning behind the channel's positioning?

Regarding structural sections.. it is usually in search for new form development that can be achieved through the vocabulary of the hot working processes. The meaning that can be read behind it can vary... in the heat of practice ideas form, conceptual and physically... while searching for new forms in a space of unknowns is when things are revealed.. its meaning can shift between contexts.

Appendix B

Correspondence with Will Maguire, January 2025

When running workshops with the staff and workers, hearing stories of working at the plant, did that steer you towards giving the pipe a human aspect, or was it a more personal decision?

It made me see some of the more human aspects of the power plant. I had come at the residency from quite a material focused perspective aiming to delve into the material energies and forces contained and generated in the plant. Talking with and getting to know a little of some of the corporate and technical workers involved presented more clearly some of the almost conflicting emotional states they embodied from regret and sentimental sadness; to hard eyed money focused 'if I can do alright out of it so I don't give a fuck about the rest'; to more reflective 'maybe history will judge me to harshly for being part of this industry but I still aim to be a good person'. Seeing this emotional complexity lead me to bring in the human more overtly.

I think long term the closure of the plant would be seen as a good move environmentally, but in the short term the impact on workers and local industry is possibly not seen. When I look at Pressure Pipe Poem pieces, from some of them I get a slightly defeated, or a sadder pose, how I imaging some of the generations of workers might look when leaving for the last time. I was wondering if there were specific intended emotions or meaning forged into the poses and the inspirations for the them?

The Hunter Valley is a huge coal mining area and location for two massive power plants (Liddell which just closed and nearby Bayswater being expanded both own by private company AGL). The immediate impact of the Liddell closures [i.e. Job losses] is very much on people’s minds and forms the basis for one side of what is a very divisive political environment in this area. The Other primary position being the need to take serious action to reduce greenhouse emissions and so transition away from these huge legacy industries. With these works I don't want to present a judgement but try to reflect some of the emotional humanity that is always embedded within human constructed industries. I am glad you see some sadness and I hopefully elements of sloth, industriousness, confusion and more joyful opportunistic attitudes as well.

Contemporary blacksmithing sits in a really interesting middle ground, using industrial machinery like power hammers, presses, using pipe and other section related to industry, but deeply rooted in a traditional and more human craft based process, do you think it is almost the perfect medium for responding to situations and locations like Liddell?

I think it did align quite well with this project and there were many many avenues I could of taken in approaching responding to the plant. One of the key difficulties I had was narrowing down the scope of my output to what I ended up doing.

In some ways I saw Liddell, the old coal fired power plant, as a proxy for blacksmithing as a trade more generally. They both utilise long standing technologies, including coal, steel and heat. They are inherently very inefficient in their use of energy and produce a lot of co2 in the process. I made me reflect on what it might mean for my own practice in terms of sustainability and social licence and what is an ethical way into the future.

When testing and experimenting with parts from the plant, do you think having experience as an industrial blacksmith helped in creating responses to an industrial location?

I think so. It certainly made me more comfortable when I was on site and wondering around talking with people and asking if I could salvage certain items. It enable me to respond in a way that tied into my experience and I found that helpful. In saying that I was one of about 16 artists. All of the others were coming from entirely other places and some of their responses where really good. So there is clearly many ways to skin a cat.

Appendix C

Poem written by David Smith in 1950:

There is something rather noble about junk—selected junk—
junk which has in one era performed nobly in function for
common man—
has by function been formed by the smithy's hand alone
and without bearings roll or bell
has fulfilled its function, stayed behind,
is not yet relic or antique or precious
which has been seen by the eyes of all men and left for me—
to be found as the cracks in sidewalks
as the grain in wood
as the drops in grass
out of snow hummock
as the dent in mud from
a bucket of poured storms
as the clouds float and
as beauties come
to be used, for an order
to be arranged
to be now perceived
by new ownership

(Solomon R. Guggenheim Foundation, 2019)