Technicities of Deception:

Dazzle Camouflage, Avant-Gardes and Sensory Augmentation in the First World War

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[*Note: some citations and in-text citations are different in this version; this version only implements corrections from proof pages*]

Abstract

This essay identifies a new form of technicity that emerged in the First World War, in which enhancement and distortion effects generated by sensory augmentation technologies could be manipulated for strategic purposes, by a variety of cultural agents. It argues that dazzle camouflage, a technology developed by the British Admiralty in 1917 to delay and confuse attacking U-boats, exemplifies this mediation of everyday life both on and off the battle fronts. Focusing on the London Vorticists, but also drawing on Futurist precedents, the essay explores how avant-gardes articulated the impact that technicities of augmentation had on modern selfhood.

Keywords

Introduction

In the First World War, battlefields became zones of technological experimentation. The innovations that resulted could produce carnage on previously unimaginable scales. However, they also influenced and derived from technological developments across a wide variety of disciplines, which often converged to shape everyday life and conceptions of modernity. The development of dazzle camouflage by the British Admiralty in August 1917 marked one such

convergence. Devised by the British painter and naval officer Norman Wilkinson, and implemented by teams of artists, military personnel, and at least one member of the London Vorticist movement, 'dazzle painting' was designed to protect military and commercial ships from German U-boat attacks. Rather than attempting the 'impossible' feat of hiding a vessel against the sky and sea, dazzle patterns consisted of starkly contrasting geometric shapes and shades applied strategically to key areas of a ship in order to deceive the enemy rather than to disguise the vessel.[1] Viewed through a periscope, the design could 'break up' a ship's 'form and thus confuse a submarine officer as to the course of a ship', thereby limiting the chance of a successful attack by disrupting the targeting calculations that U-Boat crews had only a short time to complete.[2] The Vorticist artist Edward Wadsworth worked as an officer in Wilkinson's Dazzle Section, supervising the dazzle painting of ships at Liverpool docks, including the *RMS Mauretania*, one of the fastest commercial vessels in the world at the time.[3] Pictured setting sail in 1918, this photograph of the *Mauretania* captures a momentary confluence between military, commercial, and avant-garde activity that resulted in dazzle camouflage, which first blazed across the world stage from 1917–1919 (Fig. 1).[4] However, the interdisciplinary networks that brought this technology into being have a rich life embedded within and across various cultural formations, before and after the creation of the Admiralty Dazzle Section.

This essay focuses on the Vorticist magazine *Blast* (and in particular its seminal 'War Number') and the early career of Edward Wadsworth, but it also draws on precedents in Futurist writing. It argues that the extreme contrasts and geometries that generate the visual logic of dazzle camouflage are analogous to the distorted spatio-temporal fields created by advances in commercial and military transportation and communications technologies, which emerged as modernism's first movements – and the global conflict of the First World War – took shape. Futurist writers and artists such as F.T. Marinetti, Armando Mazza, Ardengo

Soffici and Alberto Viviani, and the Vorticists Jessica Dismorr, Wyndham Lewis, Helen Saunders and Edward Wadsworth developed sophisticated aesthetic responses to the sensory overload that modern technicities could induce. The crucial role that technicity played in their work was not to annihilate or *transcend* the self, but to *augment* it – not to *escape* the increasingly militarized and commercialized public sphere, but (by making the self multiple, elusive, and resilient, embedded in and reconfigured by the technologies transforming everyday life) to *adapt* that self for survival. This tactical sleight-of-hand is the essence of dazzle poetics, where the 'razzle dazzle' of technology does not gesture towards the transcendence of quotidian experience, but rather, signals technology's centrality both to everyday life and the unreal experience of World Warfare. As their preoccupations with timing, value, and selfhood reveal, Futurists and Vorticists continually refined the relationship between this augmented self and the technicities that were spawned by their guerrilla incursions into military, commercial, and political zones.

Technicity describes how 'technologies mediate, supplement, and augment collective life' and 'are fundamental to the constitution and grounding of human endeavor', rather than somehow distinct from it.[5] The term accounts for 'how things become what they are rather than what they are', and as Adrian Mackenzie has argued, it situates individual 'technical objects' in 'a network of temporal and spatial relays' that express and shape societies.[6] Dazzle camouflage is a particularly useful example of this 'relay' in action: it can only perform its function as a technical object, i.e. achieve 'course-deception' effects,[7] when *another* technical object, i.e. the enemy's periscope, is in use. In other words, as one military historian has noted, dazzle camouflage was among a host of counter-surveillance initiatives designed 'to fool a glass eye'.[8] These innovations were based first and foremost on the manipulation of a new kind of technicity that anticipated the enemy's use of sensory augmentation, imaging, and communications technologies.[9] Sensory augmentation describes

the process by which technologies extend, assist, or enhance a 'functional' human sensorium, or compensate for limitations or damage to that system.[10] Those augmentations usually involve the controlled distortion of sensory data. For example, periscope lenses bend and amplify light to magnify objects in the field of vision when adjusted correctly – adjusted incorrectly, they distort the field of vision and make those objects indistinct. By contrast, camouflage performs in an opposing way, concealing the intended object from view by disrupting visual pattern recognition. Dazzle camouflage is unique, however, because it is not actually camouflage: dazzle patterns did not conceal potential targets (indeed, they were effective partly because they made vessels *more* visible), but attacked the enemy's ability to enhance their senses instead. This deception technology also served as a vital military propaganda tool that captured the imaginations of naval personnel and civilians alike, in many respects because the 'dazzled' vessels superficially resembled avant-garde visual art produced by Cubists, Futurists and Vorticists. For example, one journalist described these vessels as 'floating cubist paintings' and 'a futurist's bad dream'.[11] These comparisons encouraged the general post-War opinion that dazzle camouflage may have been a confidence trick played out on a mass scale – an opinion that the avant-garde figures with knowledge of its production knew to be incorrect. My argument diverges from most art-historical accounts in that it does not treat the similarities between dazzle camouflage and avant-garde art as superficial or coincidental.[12] Rather than claiming a greater instrumental role for avant-gardes in the development of dazzle camouflage, however, I want to explore their centrality to an emergent technicity of sensory augmentation, for which dazzle designs serve as a crucial metonym.

'Contradictory Magnetisms': Futurist Technicities and the Advent of War

Widely remembered as the first 'mass Avant-garde', Futurism assailed popular imaginations across Europe with a level of coherency that is astonishing given the movement's variety.[13] One common ambition central to Futurist aesthetics was the movement's attempt to schematise the rapidly shrinking distances between various populations and geographical centres in the industrialised world as technology and engineering feats made travel and communications ever more rapid. The militaristic aggression and proto-Fascism that emerged alongside this emphasis on speed in Futurist work is well documented. Nevertheless, embedded in some Futurists' need for speed was a sophisticated engagement with the technologies and the historical contexts that fuelled it.[14] For example, in his manifesto 'Destruction of Syntax – Wireless Imagination – Words-in-Freedom', F.T. Marinetti described how 'the earth [had been] shrunk by speed'.[15] This process has become known as 'time-space compression', in which technologies dramatically reduced 'spatial barriers' to communication, transport, commercial, military, and other interactions.[16] Citing Marinetti's and Le Corbusier's responses to the advent of the airplane, however, Dorthe Gert Simonsen observes that 'alternating discursive strategies linking flight, speed and modernity', on the one hand, and the 'flying machine's stabilising [and unifying] effects' on perception, on the other, means that the standard 'time-space compression narrative' is overly reductive.[17] I agree with Simonsen's general argument, but I think that the Futurists actually captured a more nuanced range of spatio-temporal phenomena than they are usually given credit for. Like Le Corbusier, many Futurist writers explored instances in which experiences of time and space could be artificially distended as well as compressed.[18] Marinetti was among the first writers to explore fully the perceptual repercussions of what might more accurately be called time-space *flux,* or the rapid fluctuation between spatio-temporal scales within a particular frame of reference. Futurist writers often performed such oscillations poetically, shifting

unpredictably between spatial and temporal fields to create the sorts of disorientating effects essential to dazzle phenomena.

The Futurist manifesto form pioneered by Marinetti provided the crucial schematics of dazzle poetics. In his 1909 screed 'The Founding and Manifesto of Futurism', Marinetti and his colleagues burst from the confines of a bourgeois home into a liberating network of roads at a break-neck speed – or so the story goes. In fact, the time-space dynamics at play in this foundation narrative are a little more subtle than that, since its crucial moment is not the protagonist's heroic departure from the domestic sphere, but an unexpected car crash and its aftermath. Marinetti is cut off by two cyclists, 'wobbling like two lines of reasoning, equally persuasive and yet contradictory', which I think signals a more complex, dialectical, and self-critical form of Futurist logic at work within the polemical argument.[19] In response, Marinetti continues, 'I spun my car around as frantically as a dog trying to bite its own tail', before careening into a ditch.[20] In the aftermath of the crash, he is rescued by a crowd of onlookers and '[t]he car slowly emerged from the ditch, leaving behind in the depths its heavy chassis'.[21] The death and rebirth central to the Futurist foundation myth takes place in this distended spatio-temporal field, which playfully undercuts the linear thrust of the narrative and the orderly experience of space-time. In the pre-war context, Marinetti's emphasis on the spectacle of potential catastrophe, and on the unintended consequences of a particular course of action, often get lost in his militaristic rhetoric.

Marinetti extended these dialectical tactics in his subsequent pronouncements. His 1912 'Technical Manifesto of Futurist Literature' begins 'astride the fuel tank of an airplane [...] two hundred meters above the powerful smokestacks of Milan', and, perhaps as a payoff for its extensive lists of grammatical and syntactical prescriptions, ends with a wild-eyed promise to use these precepts as the basis for a cybernetic future that will allow humanity to escape death.[22] The crucial imaginative leap that encouraged this proclamation was that

'aerial speed has multiplied our experience of the world', and as a result, 'perception by analogy is becoming more natural for man'.[23] In this and other manifestos, Marinetti's dissenting technophilia lurches between a technological sublime – that sense of awe, wonder and terror which technology both provokes and codifies, especially in its relationship to various landscapes[24] – and a technological bathetic, a response grounded in technology's increasing banality, accessibility, and occasionally, ridiculousness. He reached a similar conclusion in his 1911 tract 'Multiplied Man and the Reign of the Machine', which described 'the imminent and inevitable identification of man and motor, facilitating and perfecting a continual interchange of intuitions, rhythms, instincts, and metallic disciplines'.[25] This anticipated his claim in 1913 that 'the cord of velocity stretched between *contradictory magnetisms*' could produce '*[m]ultiple* and simultaneous states of mind within the same individual' [my emphases].[26] In aggregate, Marinetti's barrages of jargon-heavy hyperbole and frequent attempts to disrupt readers' orderly experience of space-time create the basis for a new Futurist imaginary while attempting to mask the sleight-of-hand and magical thinking at its core.[27] The external sites of that imaginary, and the dialectical manoeuvres that defined it, allowed Marinetti and other Futurists to add further dazzle to this rhetorical camouflage.

Like the Vorticists, Marinetti and his associates traced out problematic new relationships between the artist, the marketplace, the sexes, and a burgeoning military-industrial complex, all of which were framed by a context of time-space flux and a glittering array of technologies and consumer goods. This matrix of preoccupations formed the unstable foundations for Futurist dazzle poetics. Examples of these tactics can be found across a range of Milanese and Florentine Futurist poems, but one of the best examples is '*Transatlantico*', a poem by a Milanese disciple of Marinetti, Armando Mazza. This poem plots a rhapsodic journey in an ocean liner from Cherbourg to New York City using Marinetti's manifesto-driven co-ordinates to induce a kind of synaesthesia in the speaker. The

dazzle of a heated sexual-consumerist binge in the ship's dance hall ends in a spluttering combustion of flame and ash, 'syncopated/ sparkling musty with joy', until 'slices of the dawning sun dissect/ your nudity' and 'the smoking candelabra slowly fizzes out'.[28] Although the motion here is restless, as though Mazza is recreating an angular futurist painting, like certain Marinetti manifestos, that movement is neither constant, nor constantly accelerating. Rather, in these final lines, Mazza distends time, just as he did in the poem's opening, when the speaker is immersed in the process of 'drowning in the liquid air'. As Peter Nicholls has argued, the Futurists 'thoroughly integrated [art] into the fast-moving circuit of commodities', which ultimately 'promised freedom from the limits and incompleteness of a gendered ("pre-modern") identity'.[29] Mazza's strategies also suggest that the pace of these circuits fluctuated, and that the technicities created by this floating international marketplace are ultimately negotiated by and on the body – a point that, as I will argue shortly, the Vorticists also developed in relation to consumer culture in London.

Marinetti and the Milanese Futurists stimulated dialectical fluctuations in human perceptions of time-space, and produced anxious, contradictory responses to emerging technicities evinced by consumerism, sexuality, and other behaviours in the pre-war period. Mazza's '*Transatlantico*' traced out exactly these sorts of responses, which the *lacerbiani* – the rival Florentine avant-garde associated with Giovanni Papini and Ardengo Soffici's journal *Lacerba* (which in Italian is a compression of *L'acerba*, meaning bitter, sour, or unripe) – consolidated. For example, Alberto Viviani's poem '*Partenza aeroplano + concerto vieuxtemps*' ('Airplane Departure + Traditional Concerto') created a familiar cocoon of time-space flux in which fragility and destructive potential, and male and female anatomy, modify and intersect with each other in the technological chrysalis of the airplane.[30] Soffici's '*Crocicchio*' brought these fluctuations down to earth. His poem encodes the ambivalent cross-talk of warfare and commerce in hunting metaphors (the netted 'fish' and

'machine-gunned birds'), which serve as a pointed 'Cross-road' of technicities as Italy hovered on the brink of war.[31] Indeed, these shared tactics combined with a general agitation for Italian intervention, which initially helped consolidate the various Futurist avant-gardes' cultural programme in *Lacerba* during the build-up to the First World War. This temporary harmony also enabled the Italian Futurists to reach out to British avant-garde artists and writers, whom they sought to enlist in their cause.

Weeks before open hostilities broke out in July 1914, an Anglo-Italian alliance had been attempted in *Lacerba*, when the journal re-issued Marinetti's and the English Futurist C.R.W. Nevinson's joint manifesto 'Vital English Art', which had appeared in the *Observer* in June.[32] Wyndham Lewis appropriated the dialectical 'Against/We Want' format in the 'blast/bless' arrangement of his Vorticist manifestos, and equally, the targets that the Futurists attacked (sentimentality, degeneracy, and other anti-masculinist/anti-progress forces represented by various institutions) are as recognisable in *Blast* as the principles the Futurists endorsed ('English Art that is strong, virile and anti-sentimental').[33] The 'powerful advance guard' that Marinetti's and Nevinson's manifesto calls for re-affirms Futurist individualism, but tied it to an uncritical evocation of modernity that the London avant-gardists (whom Nevinson enlisted as signatories without their permission) found anathema. The furious response that 'Vital English Art' drew from Lewis and Pound was one of the catalysts for Vorticism – and yet the content of *Blast* 1, its most important publication, closely followed Marinetti's and Nevinson's joint prescriptions in almost all other respects. For both avant-gardes, the War was devastating, as key individuals (including the Futurists Antonio Sant'Elia and Umberto Boccioni and the Vorticist Henri Gaudier-Brzeska) died in combat. Nevertheless, the battlefield ultimately extended and informed their debates about modern technicities rather than ending them, testing their pre-war suppositions against the brutal realities of mechanised combat in the process.

Blast's 'War Number': Dazzle Refractions, Mechanised Warfare and Multiple Selves

For all of his hyper-competitive bluster, Wyndham Lewis usually took pains to differentiate the emphases of his Vorticist avant-garde while continuing to acknowledge the aesthetic territory it shared with Futurism in both numbers of _Blast_. Published on 20 June 1914, _Blast_ 1 had firmly established the Vorticists' relationship with machines, warfare, and numerous other themes, and then enumerated the ways in which they were distinct from the Futurists' related concerns. Regarding technology, Lewis argued that since machinery was a longstanding part of Britain's culture, there was no need to get quite so worked up about it. More importantly though, he emphasised technology's capacity to augment human ability and environments, rather than transcend them in a quasi-mystical union of man (and it was almost always men) and machine, as Milanese Futurists tended to do. The key distinction in Lewis's approach was not to focus on the _what_ of technology, but on the _how_ of technicity. This focus became even more pronounced in the magazine's War Number, published in July 1915, where Lewis and other contributors became especially invested in problems of technicity and selfhood posed by the reality of mechanised warfare. Although the onset of hostilities significantly delayed this second issue of _Blast_, to a certain extent the interval allowed time for some of the tribalist tensions in _Blast_ 1 to diffuse. For example, Lewis pointedly excluded C.R.W. Nevinson from _Blast_ 1 due to his Futurist affiliation, but he included and praised the younger painter in _Blast_ 2, whilst also toning down his attacks on Marinetti.[34] These and other factors allowed Lewis to focus on 'the serious mission' Vorticists had 'on the other side of World-War'.[35] A major feature of this 'mission' was to issue a definitive statement of Vorticist technicity, which reflected the Futurists' razzle dazzle poetics off of the famously 'polished sides' and clean angles of Vorticist art.[36] Accordingly, in works by Lewis, Jessica Dismorr, Helen Saunders, and Edward Wadsworth, _Blast_ 2 down-

played the satiric bombast of the first number and refined its augmentation of the multiple, modern self.

As Günter Berghaus has noted, the Futurists imagined 'a symbiotic relationship' between humanity and machines that would eventually result in a mystical fusion of the two.[37] However, this relationship was based on a form of techno-mysticism that Lewis found to be sentimentally utopian. In *Blast* 2, he praised the Futurists who 'rejected the POSED MODEL, imitative and static side of CUBISM, and substituted the hurly-burly and exuberance of actual life'.[38] To this he added the dualistic Vorticist logic that playfully urged readers to 'become mechanical by fundamental dual repetition', a tactic that he believed would help 'invent yourself properly'.[39] In 'becom[ing] mechanical', Lewis's writing in *Blast* envisages a transactive process of hybridisation. Contemporary cultural geographers describe this kind of technicity as a process in which 'the distinction between living and nonliving (technological)' is elided, and 'instead of there being an interface between humans and technology, they become entwined as hybrids'.[40] Lewis's use of machinery in *Blast* forms a ligature between the living and the nonliving, becoming both and neither according to the artist's designs, rather than (as the Futurists would have it) a mystical fusion of humans and technology. In *Blast* 2, for example, he insists that '[a] machine is in a greater or less degree, a living thing', on the one hand, and on the other, he associates machine with the 'the unhuman character [...] of art itself'.[41] The paradox, as ever, is resolved by artistic intention. Lewis's critique of Jacob Epstein's iconic *Rock Drill* in this number exemplifies this process perfectly. Lewis enthusiastically notes that 'the nerve-like figure perched on the machinery, with its straining to one purpose, is a vivid illustration of the greatest function of life.'[42] Because Epstein used alabaster for the bust and torso, however, Lewis felt 'that the combination of the white figure and the rock-drill is rather unfortunate and ghost-like'.[43] The result is that despite its powerful address to the forthcoming Machine Age, for Lewis, the

version of *Rock Drill* displayed at the Goupil Gallery in March 1915 approached the model of hybridity that he envisaged, but fell short of that ideal because it ultimately abstracted rather than reinforced the intricate technicities that he and other Vorticists had used to connect humans and machines. Nevertheless, his critique of Epstein served to identify technicity as a vital subject and cultural project for artists, which was developed by other Vorticists as the war raged on.

In *Blast* 1, the relationship between technology and humanity was strongly inflected by the militaristic tone in some of its works. *Blast* 2 modified that emphasis. In the War Number, technicities were alternatively presented as heroically aggressive or flippant (usually in the work of Lewis), but elsewhere, increasingly defensive, a response driven by a sense of the body and the city's vulnerability to attack. The Central Powers began Zeppelin bombing raids on London in January 1915, which provoked terror and defiance in equal measure. Jessica Dismorr and Helen Saunders in particular managed to balance these emphases exquisitely, and to produce some of the most forceful yet intricate examples of modernist dazzle tactics extant. Both artists trained at the Slade, but they were also incisive writers who embraced the contradictory aesthetics of the vortex.[44] In the process they re-invigorated the commercial tropes common to Futurist poetry, while ramping up the military discourses introduced by Lewis. In Dismorr's 'Monologue', for example, fashion is simultaneously a weapon, victim, and victimiser of the Vorticist model/designer/soldier:

> I ache all over, but acrobatic, I undertake the feat of existence.
>
> Details of equipment delight me.
>
> I admire my arrogant spiked tresses, the disposition of my perpetually
>
> > foreshortened limbs,
>
> Also the new machinery that wields the chains of muscles fitted beneath

> my close coat of skin.
>
> On a pivot of contentment my balanced body moves slowly.
>
> Inquisitiveness, a butterfly, escapes.
>
> It spins with drunken invitation.[45]

As it enters the public sphere, the speaker's bodily 'machinery' experiences a gradual chrysalis, from inquisitive sentient automaton to cornered fighter to accidental explorer. This is consistent with Vorticist aesthetics, which, like certain Futurist works, often treated the marketplace as an arena for competitive spectacle. At first subsumed by its capacity for sensory disorientation, the speaker then turns the experience of synaesthesia to her advantage by dazzling her enemies in the commercial sphere. As her 'eyes dilate and bulge' in 'pursuit of shapes', she turns her gaze against her 'sick opponents dodging behind silence' by using a form of 'echo' location, which 'shrills an equivalent/ threat'. Dismorr's early warning system makes explicit the connection she identifies between commercial culture and war as 'pampered appetites and curiosities become blood-drops', unequivocally linking acquisitive greed and an imperialist state that 'yells war'. In doing so, Dismorr shows how the polyphonic public sphere in which these discourses intersect becomes drowned out by this brutal 'gong', or droning 'Monologue'. Her literary tactics provide a way of waging guerrilla warfare in and against this monologic field, even in a state of temporary vulnerability, when 'Striped malignities spring upon' her. Dismorr's multiple and mechanised self deploys her dazzle camouflage in constantly shifting surroundings, striking out against her opponents unexpectedly even while they target her.

Saunders injected similar strategies in her poem 'A Vision of Mud', which was haunted by the filth and attrition that had come to characterise trench warfare by the time *Blast* 2 was published. Against this abject, 'antediluvian' formlessness, Saunders aligns

various tools, shapes and implements that betoken modernity, which engulfs and disorientates the speaker with its contradictory properties.[46] This poem, when it is read at all, is usually framed as though it were addressed exclusively to the 'mud' of First World War battlefields, but it is actually about a 'Hydro', or 'health-resort', a space for the sort of luxury 'pampering' that Dismorr addresses in 'Monologue'.[47] Like Dismorr, then, Saunders explicitly connects war and consumer self-indulgence: the 'poisoned arrows' in the poem do not counterpoint, emerge from, or interject against a backdrop of consumer desire, but are synonymous with it. However, unlike the Futurists (and to a certain extent, unlike Dismorr), she does not conflate consumer activity and the lure of sexual satisfaction – there is nothing *petit* about the *mort* she alludes to, and nothing trivial about the parallels she draws between a luxury spa and trench warfare. Saunders also carefully recalibrates the relationship between the human sensorium and modern technicities. 'A Vision of Mud' replaces the gemstones, crystals, and reflective surfaces that typically litter Futurist dazzle poetry with large-scale leisure and warfare technology, which produce mundane 'ashen kaleidoscope[s]' rather than a storefront of dazzling products.[48] In doing so, she makes the point that modern technologies and technicities can stultify and fix the subject, as well as mobilise and liberate it, and thus, make it a vulnerable target.

Saunders introduces the War in 'A Vision of Mud' via the 'olive branch', 'recruiting band' and 'iron bar' with sharp 'edges', which produces a pleasurable sensation of pain and conflates consumer pleasure with the anticipation of harm. The Hydro's leisure technology disrupts spatial norms ('How is it that if you struggle you sink') and temporal fields, which link the 'antediluvian sounds' of Old Testament history with the 'drums' and 'fifes' of a 'recruiting band' pursuing conscripts for a future skirmish in the quintessentially modern War. A sensory disorientation accompanies this time-space distortion, as 'A crowd of india-rubber-like shapes swarm […] like an ashen kaleidoscope'. The resulting 'dream' state pairs

London consumers wallowing in 'medicinal' mud with the lethal filth that lubricates the industrial-scale slaughter taking place on the Continent. The speaker has 'just discovered with what I think is disgust, that there are hundreds of other/ bodies bobbing about against me'[49] – 'Every now and then one of these fellow-monstrosities bumps softly against me'.[50] Unlike in Dismorr's poem, however, in which the speaker 'stoop[s] to lick the bright cups of pain'[51] and derives a curious sense nourishment from the battle in the process, Saunders's multiple self remains a modern 'monstrosit[y]'. Unable or unwilling to transmute the contexts of pain and death that surround it into anything potentially stimulating, Saunders's persona 'think[s] of my ancestors' as 'Rain falls in the grave distance'. This signals a retreat into time and distance, as the self is 'too proud and too lazy' to resolve the dichotomy of death and desire, and hands the problem over to the addressee.[52] Nevertheless, that self survives a violent moment of time-space compression by slipping away in the entropy and attrition that surrounds it, preserved by its unique twist on dazzle tactics. Despite Lewis's cavalier attitude towards technology and feats of engineering in *Blast* 2, then, this poem, and the War Number as a whole, actually reinstated Futurist anxieties about the limits of human-mechanical interaction. Its contributors also worried about the vulnerability of the human body as it was transformed by contact with commercial and military technicities of sensory augmentation. Nevertheless, the Vorticists' interventions in *Blast* also provided ingenious ways of channelling those anxieties and adapting emergent technicities to the artist's cause.

The War Engine: Edward Wadsworth's Dazzle Designs

Blast's War Number showcased the ways in which Vorticists could use new technologies and technicities to disrupt 'perceptive powers' as well as enhance them, but also to exploit the perceptual 'gap between perceiver and perceived' that various technologies of the First World War had attempted to 'close'.[53] In the summer of 1915 *Blast* 2 had helped anticipate and

develop the technicities that culminated in the invention of dazzle camouflage in 1917, just two years later – not, I think, because of any 'subliminal' influence from the artists on the military (or vice versa), but because of the Vorticists' acute grasp of a new battlefront, in which technicities of augmentation could be manipulated and attacked. Dazzle designs, pre- and post-camouflage, deliberately interrogated the boundaries between representational and non-representational forms. In doing so they identified the central involvement of technology and its capacity both to enhance and distort the human sensorium, and Edward Wadsworth was on the front lines of this battle. Despite being a crucial organiser and proponent of the Vorticist movement, Wadsworth is often overlooked in critical appraisals of this avant-garde.[54] However, Pound understood that Wadsworth's presence was crucial to Vorticism's programmatic dualism. 'The Vorticist movement is a movement of individuals, for individuals, for the protection of individuality', Pound wrote; and although the work of 'Mr Lewis and Mr Wadsworth' is 'quite different', he continued, together, their presence in *Blast* 'arranges itself almost as a series of antitheses. Turbulent energy: repose. Anger: placidity, and so on.'[55] Wadsworth's unique contributions to *Blast*'s 'War Number' served as a foil for the work of Lewis and other Vorticists, but it also formed telling similarities with it. Like Saunders and Dismorr, he explored how Vorticist technicities could enable the individual to negotiate the cultural impact of industrial-scale warfare and the contradictory energies of modernity.

In his woodcuts *Rotterdam* and his engraving *War-Engine* for *Blast* 2 Edward Wadsworth revisited the aerial perspectives he had used in *Blast* 1 (for example in *A Short Flight*) from an overtly military perspective. *War-Engine* resembles an overhead view of a port, which focuses a vortex of mechanical energy into a trumpet blast, projecting from the clean angles and saw tooth designs patterns that anticipate certain dazzle camouflage schemes. For Richard Cork, the tactics and subjects used in these woodcuts help 'explain why

Wadsworth became so readily involved in the dazzle-camouflage of ships'.[56] However, Wadsworth took an important step in the intervening period that made the match perfect: he enlisted with the Royal Naval Volunteer Reserve in 1916, which provided both the contacts and military experience necessary for the dazzle section in time for its launch in the summer of 1917. As Jonathan Black summarizes,

> [a]fter 18 months service with Naval Intelligence and the Royal Navy Air Service at Mudros, on the eastern Aegean island of Lemnos, Wadsworth was invalided back to Britain in December 1917 with a combination of dysentery and sunstroke. Two months later he was snapped up by marine artist and RNVR officer Norman Wilkinson to serve as a 'port officer' attached to his 'dazzle camouflage' department within the Ministry of Shipping.[57]

Among art historians there is a general perception that the connections between Vorticism (and other experimental art movements) and dazzle camouflage was purely circumstantial, and any influence of modernist art on the Dazzle Section probably 'subliminal' at best.[58] However, *Blast*'s contributors expressed a sense of shared purpose with the military by using naval warfare and ports as subjects, as well as in their negotiation of the emergent technicities that resulted in the invention of dazzle camouflage. As Black argues, while 'the first issue of *Blast* bullishly promoted Britain's seemingly unchallengeable maritime supremacy literally built upon high-technology manufacture', there was also 'a growing sense that Britain was being remorselessly outclassed economically and in terms of technological innovation by Imperial Germany and by that manifestly even greater industrial behemoth, the United States.'[59] In popular accounts of its military, commercial and Vorticist applications, dazzle painting amounted to a nationalist techno-aesthetic counter-blast against Continental

opposition. Responding to an urgent letter by Norman Wilkinson, the British Admiralty

finally launched 'controlled, preliminary full-scale trials' of 'Dazzle Painting' on 'the

Admiralty storeship *HMS Industry*' in the summer of 1917.[60] Coincidentally – although in the

context of my argument, it is a very telling coincidence – Wilkinson intended the Transport

Camouflage Section (as the first Dazzle Section was originally known) to focus on merchant

shipping, as the name of the first test vessel, the *HMS Industry,* clearly indicates. It is

therefore appropriate that dazzle camouflage ultimately was an acquisitive technology: it

bought time.

As a trained draughtsman, highly skilled artist, naval officer, and heir to a wealthy

industrialist, Wadsworth was perfectly placed to interpret and implement Wilkinson's dazzle

strategies for mass production. Each system designed and tested by Wilkinson and his team

of artists at Burlington House had to be adapted for each specific vessel by officers at eight

British ports. The brilliance of Wilkinson's dazzle system was its adaptability, and it quickly

evolved into a standardised (if not altogether consistent) system with clearly defined designs,

each for a specific category of vessel, to achieve specific objectives.[61] The scale of the

operation was enormous, with as many as one hundred ships being 'camouflaged in a British

port such as Liverpool, Bristol, Southampton, and Newcastle, at any one time', totalling

'2,300 British Merchant ships' by June 1918, and 1,200 American ships by November.[62]

Wadsworth was stationed at Liverpool docks, and just as he had done in his earlier work, he

chronicled the tactical role played by ports and their crews in his art. Contemporaneous

photographs of his crew dazzle-painting docked vessels in 1918 also foreground the dynamic

activity of the painters, where their movements and rigging are frequently accentuated by the

shadows on the vessel.[63] Such documentary records subtly but importantly inflect

Wadsworth's best-known works about dazzle ships, which include his monochrome woodcut

Dry-docked for Painting and Scaling, Liverpool (1918) and his monumental 1919 oil on

canvas *Dazzle-ships in Drydock at Liverpool* (Fig. 2). In each case, the figures performing the maintenance are diminutive. However, in the woodcut, they recollect the angular, mechanised forms associated with Lewis's representational Vorticist figures, as well as his cybernetic technicities, and they also resemble the support mechanisms used to hoist the ship (an effect that 1918 photographs of dazzle painting projects achieve by using shadows cast by the crew and their rigging). In *Dazzle-ships in Drydock at Liverpool*, the figures are more organic, but equally, more obscure than in the woodcut. Like Dismorr's and Saunders' camouflaged bodies, and Mazza's floating marketplace in '*Transatlantico*', they are both engulfed by the technological apparatus that surrounds them, whilst also subtly dominating it. The viewer's focus is of course on the dazzle ship, and to a lesser extent the other ships in the background. However, the infrastructure is just as important as the ships themselves. The intricate dock ramps, scaffolding and other intersecting lines are essential to the painting's epic scale, which is ultimately (and subversively) determined by the diminutive figures working diligently at its base.

These dazzle-themed works more than any others suggest the strident Vorticist foundations of Wadsworth's dazzle subjects. At the same time, they establish the subtle convergence of technicities that helped produce a collaboration between avant-garde artists and a burgeoning military-industrial complex, in which technologies, and especially 'weapons systems', became 'grand symbols of sovereignty'.[64] The Dazzle Section highlights the crucial role that commercial interests played in developing this symbolic order, and the vexed position of the avant-garde artist in its creation and material execution. Wadsworth's representations of dazzle painting seem obsessed with such intersections, and this may be the reason why his depictions of dazzle camouflaged ships are all rooted to ports. These points of mediation between sea and land, movement and stasis, and commercial and military contexts capture the ambivalence of an individualistic experimental artist plying his trade in a highly

regulated system of mass production for organised conflict. In his introduction to a series of woodcuts by Wadsworth published in April 1921, which included an illustration of another dazzle ship *In Dry Dock (1918)*, O. Raymond Drey remarked that Wadsworth's 'irregular black and white mosaics do not yield up all their secrets to the first glance'; however, Drey continued, the 'designs are full of a brilliant movement which at first may seem an end in itself, but which is quickly seen to be controlled by a clearly formulated logic of arrangement which is only at a short remove from literal accuracy'.[65] Drey was discussing the tension between representational and non-representational forms in the woodcut series, but he also identifies a tension central to dazzle camouflage and to Futurist and Vorticist technicities. For these avant-gardes, technological advances in commercial and military spheres created opportunities for both critique and collusion – for attack and defence – and for evasion.

Conclusion

The correlation of dazzle camouflage with Vorticist and Futurist art and literature represents just one strand in a broader cultural narrative about cross-disciplinary innovations that emerged in response to a world increasingly viewed through 'a glass eye'. This new world was heavily mediated by sensory-enhancing technologies and the military, commercial, and aesthetic strategies formulated in response to them. Dazzle camouflage is an especially instructive example of how these technicities emerged across multiple spheres of production. Popular accounts of the technology continued to appear in the immediate aftermath of the Armistice on November 1918, although then, as now, usually in a valedictory context. [66] By that stage, however, the public and Establishment alike were beginning to appreciate the Vorticists' contribution to national life. In an ironically-titled article 'The Death of Vorticism', Pound noted that 'the government has at last put a Vorticist lieutenant [Wadsworth] in charge of the biggest port in England', and that 'after trying all kinds of war

painters [...] [it] has [also] taken on Mr. Wyndham Lewis' and 'Mr. [William] Roberts'.[67]

Pound's point, of course, was that Vorticism emphatically was *not* dead, but had been

assimilated by the British establishment (which, in an unintentional irony, actually

represented a form of cultural 'death' for a supposedly oppositional avant-garde) and was

garnering new interest across the Atlantic.[68] A further irony was that whilst Pound repeatedly

drew on dazzle camouflage to legitimise the avant-garde he led by citing its Establishment

credentials, the Establishment and various mainstream publications were busy consigning the

dazzle project to history.

One of the most prescient accounts of dazzle camouflage's legacy was published in

The Sphere in March 1919, and Norman Wilkinson quoted it at length in his autobiography to

conclude his chapter on the Dazzle Section. The article accurately represented dazzle

technology and its value to the war effort, but it also chronicled its rapid slide from high

visibility into memory and legend, at a time when '[a]ll this welter of colours is fast

vanishing from the world'.[69] The British Admiralty pushed this decline a step further: shortly

before the Armistice, a Committee on Dazzle Painting 'produced a report that called into

question covering camouflaged ships which were attacked or sunk by submarines';

ultimately, the Admiralty concluded that as well as being expensive to maintain, 'dazzle

camouflage of capital ships' was of no real tactical advantage but that nevertheless, it was

'not averse to the dazzle camouflage of other ships as evidence suggested that such

camouflage was not harmful and might at least have intangible benefits in aiding morale'.[70]

Even Wilkinson's biography, for all its emphasis on statistics and procedure, tends to rely on

the subjective testimony of military, industrial, and political leaders rather than empirical

evidence in its discussions of dazzle camouflage – a stylistic tack which might be seen to

support the Admiralty's conclusions. So was dazzle camouflage really just an unproven (and

unprovable) sleight-of-hand after all, a mass spectacle that boosted morale with a 'razzle

dazzle' of techno-nationalist propaganda designed to resemble, rather than execute, proven technological innovations?

If so, then the narrative would seem to be neatly concluded: Futurism died with the Futurists in the War, and the Futurist 'cult of the machine' along with it; Pound's sardonic epitaph declaring the 'Death of Vorticism' was eventually drained of its irony; and dazzle camouflage faded into history, condemned as a confidence trick on a grand scale. Except that none of these things is really true: Futurists and Futurism persisted well (and problematically) into the 1940s; Pound identified a proponent of Vorticist music in *George Antheil and the Treatise on Harmony* (1924), and, as Douglas Mao has noted, the movement experienced 'many afterlives' in many spheres; [71] and the British Admiralty was wrong about dazzle camouflage. Tests conducted in the Physics Department of the Eastman Kodak Research Laboratories in Rochester New York in the 1920s and 30s proved conclusively that, in the limited contexts for which it was originally intended, 'Dazzle Painting was perfectly sound and valid as confirmed by the subsequent adoption of refined versions in the Second World War'. [72] It worked, in other words, exactly as it was intended to do, not *despite* (as the British Admiralty would have it) its connections and similarities to avant-garde art, but in important (though not, as Pound would have it, decisive) ways, *because* of them.

The shock of avant-garde techniques suddenly attaining instrumental value produced a dazzle effect in multiple spheres of discourse, from mass print culture to the specialised networks of military strategy and aesthetic production, often via chicken-and-egg narratives that marvelled at these unexpected confluences of technicities. The First World War created the rare – though certainly not unique – conditions that jammed these strands together into genuine collaborations. Once those conditions faded, the common purpose that justified those partnerships was removed, and collaboration would begin to look suspiciously like collusion, on both sides. Pound's final encounter with dazzle designs appears to acknowledge this

tension even as he sought to break his ties with Britain. The decorated capitals in the Vorticist

Alphabet created by Wadsworth, which appeared in the 1920 Ovid Press edition of *Hugh*

Selwyn Mauberley, added hierarchies of crystals to the dazzle designs commonly found in his

woodcuts, particularly in the Fs and Ts. In *Mauberley*, Pound reclaims this aesthetic

innovation from the military and turns the technology back against it by tacitly evoking the

strategies of deception that ultimately lay behind the dazzle project. By doing so, he

commemorates those who 'walked eye-deep in hell/ believing in old men's lies', and calls

upon the survivors to train their gazes on the 'old lies and new infamy' that awaited them at

home.[73]

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[1] Norman Wilkinson, *A Brush With Life* (London: Seeley Service, 1969), p. 79.

[2] Ibid.

[3] First pressed into military service as a troop transport for the Gallipoli campaign after the infamous sinking of her sister ship the *Lusitania* by German U-boats, the *Mauretania* was previously a commercial passenger ship owned by the British Cunard Line; see Humfrey Jordan, *Mauretania: Landfalls and Departures of Twenty-Five Years* (London: Hodder & Stoughton, 1936; Wellingborough: Stephens, 1988), pp. 13-25.

[4] In addition to many articles and photos featuring these dramatically painted vessels, novelties such as dazzle bathing suits and other fashions began to appear in 1919; see Roy R. Behrens, *Camoupedia: A Compendium of Research on Art, Architecture and Camouflage* (Dysart, IA: Bobolink Books, 2009), pp. 132-34.

[5] Martin Dodge and Rob Kitchin, 'Code and the Transduction of Space', *Annals of the Association of American Geographers*, 95 (2005), 162-80 (p. 169).

[6] Adrian Mackenzie, *Transductions: Bodies and Machines at Speed* (London: Continuum, 2002), p. 16, p. 19.

[7] David Williams, *Naval Camouflage 1914-1945: A Complete Visual Reference* (London: Chatham Publishing, 2001), p. 36.

[8] Roy M. Stanley II, *To Fool a Glass Eye* (Shrewsbury: Airlife Publishing, 1998), p. 5.

[9] Other such camouflage systems were designed to disrupt aerial surveillance and 'photo intelligence'; ibid., pp. 5-25.

[10] Kurt A. Kaczmarek, 'Sensory Augmentation and Substitution', in *The Biomedical Engineering Handbook, 4th edn,* ed. by Joseph D. Bronzino and Donald R. Peterson (Boca Raton, FL: CRC Press, 2014), pp. 46-1 - 46-10 (p. 46-1). 'Augmentation' is a problematic term, suggesting perhaps a utopian promise of continuous and exclusive benefit through means of technological enhancement. However, processes of augmentation, technological or otherwise, almost always imply a cost, whether in terms of finance, time, effort, or unintended consequences.

[11] Charles DeKay, 'Ships That Fade Away', *Nation*, 27 July 1918, p. 105; quoted in Roy Behrens, 'The Role of Artists in Ship Camouflage During World War I', *Leonardo*, 32 (1999), 53–59 (p. 57).

[12] In his first influential study of Vorticism, Richard Cork argues that Wilkinson's invention of dazzle camouflage was derived from 'optical theories about the distortion produced by violent colour contrasts and heraldic patterns than from any engagement with the avant-garde', but that nevertheless 'the camouflage designs [did] possess extraordinary subliminal links with the concerns of Vorticism'; *Vorticism and Abstract Art in the First Machine Age, 2 Vols: Synthesis and Decline* (London: Gordon Fraser, 1976), II, p. 523.

[13] See Germano Celant, 'Futurism as Mass Avant-Garde', trans. by John Shepley, in *Futurism and the International Avant-Garde*, ed. by Anne d'Harnoncourt (Philadelphia: Philadelphia Museum of Art, 1980-81), pp. 35-42.

[14] For an excellent account of Futurism and its Italian industrial contexts, see Günter Berghaus, 'Futurism and the Technological Imagination: Poised between Machine Cult and Machine Angst', in *Futurism and the Technological Imagination*, ed. by Günter Berghaus (Amsterdam and New York: Rodopi, 2009), pp. 1-39.

[15] F. T. Marinetti, 'Destruction of Syntax – Radio [Wireless] Imagination – Words-in-freedom' (1913), in *Futurism*, ed. by Lawrence Rainey, Christine Poggi, and Laura Wittman (New Haven and London: Yale University Press, 2009), pp. 143-151 (p. 144). I cite this anthology as *Futurism* hereafter.

[16] David Harvey, *The Condition of Postmodernity: An Enquiry into the Origin of Cultural Change* (Oxford: Blackwell, 1989), p. 232.

[17] Dorthe Gert Simonsen, 'Accelerating Modernity: Time-Space Compression in the Wake of the Aeroplane', *Journal of Transport History*, 26 (2005), 98-117 (pp. 99-100).

[18] Marjorie Perloff describes the Futurists' general interest in 'spatial and temporal distortions' as a characteristic feature of their work in *The Futurist Moment: Avant-Garde, Avant Guerre, and the Language of Rupture, With a New Preface* (1986; Chicago: University of Chicago Press, 2003), p. 8.

[19] F. T. Marinetti, 'The Founding and Manifesto of Futurism', *Futurism*, pp. 49-53 (p. 50).

[20] Ibid.

[21] Ibid.

[22] F. T. Marinetti, 'Technical Manifesto of Futurist Literature', *Futurism*, pp. 119-25 (p. 119).

[23] Ibid. p. 120.

[24] See David E. Nye, *American Technological Sublime* (Cambridge, M.A., and London: The MIT Press, 1994).

[25] F. T. Marinetti, 'Multiplied Man and the Reign of the Machine', *Futurism*, pp. 89-92 (p. 90).

[26] F. T. Marinetti, 'Destruction of Syntax – Radio [Wireless] Imagination – Words-in-freedom' (1913), *Futurism*, pp. 143-44.

[27] As Berghaus notes, this technological imaginary 'involved a new concept of a New Humanity of the Machine Age, where people were not only friends, masters and allies of the machine, but fused with it in a symbiotic relationship' (p. 26). I will argue later that the Vorticists developed this imaginary in sophisticated ways.

[28] Armando Mazza, '*Transatlantico* [Oceanliner]', in *Italian Futurist Poetry*, ed. and trans. by Williard Bohn (Toronto: University of Toronto Press, 2005), pp. 44-47 (p. 47). I cite this anthology as *IFP* hereafter.

[29] Peter Nicholls, *Modernisms: A Literary Guide, Second Edition* (Palgrave Macmillan: Basingstoke and New York, 2009), pp. 98-99.

[30] Alberto Viviani, Viviani's '*Partenza aeroplano + concerto vieuxtemps*' ['Airplane Departure + Traditional Concerto'], *IFP*, pp. 76-81.

[31] Ardengo Soffici, '*Crocicchio* [Cross-Road]', *IFP*, pp. 82-83.

[32] F.T. Marinetti and Christopher Nevinson, 'Futurism and English Art' (7 June 1914 The Observer), *Futurism* pp. 196-98; 'Vital English Art', *Lacerba*, 2.14 (15 July 1914), 209-210.

[33] *Futurism*, p. 198.

[34] See Wyndham Lewis, 'The London Group', *Blast 2* (July 1915),77-79 (p. 77). I cite *Blast 2* as *B2* hereafter.

[35] Wyndham Lewis, 'Editorial', *B2*, 5-6 (p. 5).

[36] Wyndham Lewis, 'Our Vortex', *Blast* 1 (20 June 1914), pp. 147-49 (p. 149).

[37] Berghaus, p. 26.

[38] Wyndham Lewis, 'A Review of Contemporary Art', *B2*, 38-47 (p. 40).

[39] Wyndham Lewis, 'Vortex No. 1', *B2*, 91.

[40] Martin Dodge and Rob Kitchin, 'Code and the Transduction of Space', *Annals of the Association of American Geographers*, 95 (2005), 162-80 (p. 169).

[41] Lewis, 'A Review of Contemporary Art', pp. 43-44.

[42] Ibid. pp. 43-44.

[43] Ibid. pp. 43-44.

[44] See Miranda Hickman, 'The Gender of Vorticism: Jessie Dismorr, Helen Saunders, and Vorticist Feminism', in *Vorticism: New Perspectives*, ed. by Mark Antliff and Scott W. Klein (Oxford: Oxford University Press, 2013), pp. 119-36.

[45] Jessica Dismorr, 'Monologue', *B2*, 65.

[46] Helen Saunders, 'A Vision of Mud', *B2*, 73-74 (p. 73).

[47] Ibid. p. 73

[48] Ibid. p. 73

[49] Ibid. p. 73

[50] Ibid. p. 74.

[51] Dismorr, p. 65.

[52] Saunders, p. 74.

[53] Ryan Bishop and John Phillips, *Modernist Avant-Garde Aesthetics and Contemporary Military Technology: Technicities of Perception* (Edinburgh: Edinburgh University Press, 2010), p. 4.

[54] Wadsworth's letters to Lewis indicate that he worked tirelessly behind the scenes to organise and edit *Blast*, and that he secured the services of Leveridge & Co., the printer for the journal, as well. See especially Edward

Wadsworth to Wyndham Lewis, 22 December 1913; 1 January 1914; 4 February1914; Wyndham Lewis collection, #4612. Division of Rare and Manuscript Collections, Cornell University Library.

[55] Ezra Pound, 'Edward Wadsworth, Vorticist', *The Egoist* 1 (15 August 1914), 306-07 (p. 306).

[56] Richard Cork, 'Wadsworth and the Woodcut', in *A Genius of Industrial England: Edward Wadsworth 1889-1949*, ed. by Jeremy Lewison (Hatfield, Herts.: Arkwright Arts Trust and Bradford Art Galleries and Museums), pp. 12-29 (p. 24).

[57] Jonathan Black, '"Constructing a Chinese-Puzzle Universe": Industry, National Identity, and Edward Wadsworth's Vorticist Woodcuts of West Yorkshire, 1914-1916', in *Vorticism: New Perspectives*, pp. 89-101 (p. 101). I am grateful to Jonathan Black for his insights and generosity during my research on Wadsworth, and to Alexander Hollweg and the Edward Wadsworth Estate for their help and guidance. Any errors are my own.

[58] Cork, 'Wadsworth and the Woodcut', p. 24.

[59] Jonathan Black, '"Constructing a Chinese-Puzzle Universe"', p. 96.

[60] Williams, *Naval Camouflage*, p. 232.

[61] See Ibid., pp. 230-47.

[62] Jonathan Black, '"A Few Broad Stripes": Perception, Deception and the "Dazzle Ship" Phenomenon of the First World War', in *Contested Objects: Material Memories of the Great War*, ed. by Nicholas J. Saunders and Paul Cornish (London: Routledge, 2009), pp. 190-202 (pp. 195-96).

[63] See Fig. 23, which depicts a ship being dazzle painted by Edward Wadsworth's crew at Liverpool docs ca. 1918, in Albert Roskam, *Dazzle painting: kunst als camouflage, camouflage als kunst* (Rotterdam: Stichting Kunstprojecten, 1987), p. 23.

[64] MacKenzie, p. 212.

[65] O. Raymond Drey, [untitled introduction], *Edward Wadsworth: Modern Woodcuts 4* (London: The Little Art Rooms, 1921), n.p.

[66] See for example Pound's review of John Everett's December 1918 exhibition 'Paintings & Drawings of the Camouflage of Ships' at the Goupil Gallery: B.H. Dias [Ezra Pound], 'Art Notes', *New Age* 24 (26 December 1918), 126-27. Also see his review of the 'Sea Power' Exhibition at Grosvenor Galleries: B. H. Dias [Ezra Pound], 'Art Notes', *New Age* 24 (13 February 1919), 240-41.

[67] Ezra Pound, 'The Death of Vorticism', *The Little Review* 5:9 (January 1919), 45-8 (p. 48)

[68] See Eric B. White, *Transatlantic Avant-Gardes: Little Magazines and Localist Modernism* (Edinburgh: Edinburgh University Press, 2013), pp. 78-79.

[69] 'Dazzle-Painting and Its Purpose', *The Sphere*, 22 March 1919, in Wilkinson, p. 83.

[70] Williams, *Naval Camouflage*, p. 11.

[71] Douglas Mao, 'Blasting and Disappearing', in *Vorticism: New Perspectives*, pp. 235-55 (p. 249).

[72] Williams, *Naval Camouflage*, p. 36.

[73] Ezra Pound, 'IV', *Hugh Selwyn Mauberley* (London: The Ovid Press, 1920), p. 12.