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Concrete Thinking for Sculpture

Rowan Bailey

This article proposes to explore the variegated plays of concrete as a travelling concept through four specific examples, viewed from the locality of the Yorkshire Sculpture Triangle in 2015.¹ It will be argued that ‘concrete’ makes possible a triangulated reading practice *in, of* and *for* sculpture. The first example looks to the use of concrete, as a material, in some of the ‘technical’ experiments of Henry Moore, from the 1920s-1930s. The second example is the only public concrete sculpture by Barbara Hepworth on record, entitled *Turning Forms*. This is a kinetic work which was commissioned for the Festival of Britain in 1951. The psychic registrations of form-in-concrete will be explored through the aesthetic reception and understanding of these works. The third example examines the interplay between abstraction and concretion in a work of structural engineering: the Arqiva transmission tower on Emley Moor. This structure is a working utilitarian model of the telecommunications industry which took hold in the 1960s and 1970s. It is also a sculptural monument in a landscape of other design ‘types’. The fourth example considers the recent display of Lygia Clark’s *Bichos* at the Henry Moore Institute, Leeds, in 2014-2015. *Bicho Pássaro do Espaço* (‘Creature Passing through Space’) (1960) reveals a particular translation between concrete thinking and concrete experience. These examples call upon the semantics of the concrete as a thought process and will track a journey into a region marked by three interconnected points: the concrete specificity *in* the material works selected, the broader field of concrete forms within which the sculptural may sit and the philosophical/aesthetic language of concrete *for* sculpture.

Before entering into the space of the examples themselves, it is necessary to position the theoretical framing of concrete both as a material and as a thinking process. Meike Bal’s chapter on the ‘concept’ in her 2002 text *Travelling Concepts in the Humanities*, in particular, the section ‘Travel between Concept and Object’, helps to articulate the double-meaning of ‘concrete’ central to the current exploration. Bal discusses a necessary dynamic exchange in the methodological formation of ‘cultural analysis’, which she defines as a dialogue between the object of analysis and the ‘thrust of interpretation’.² Her consideration of concepts in affiliation – focalization, the gaze and framing – gives place to a visual poetics, derived from interdisciplinary exchanges between different modes of analysis. The dialogues between these positions inevitably transforms pre-existing frameworks of conceptual understanding.³ The travel between concept and object therefore, is a process whereby, through acts of

close reading and analysis, concepts are *informed* by the objects they encounter. In this context, the concept ‘concrete’ – as part of a thought process and as a material – must be put to the test through the examples under discussion.

Concrete-as-material

The etymology of concrete has Latin roots. From the past participle *concrescere* – ‘grow together’ – to the adjective *concretus* – ‘condensed, hardened, thick, stiff, congealed, clotted’, concrete not only describes *how* it becomes a form, it also expresses the character of its fixed condition. Concrete-as-material carries within itself the properties *and* qualities of its own formation. It is always already an amalgamation of contexts. Furthermore, concrete marks the endpoint of a process: the mixing of water, cement – such as fly ash or limestone – and different material aggregates – whether crushed stone, gravel, sand or clay – when contained in a mould or supported by the framework of steel rods, ‘fuses together’ to assume the status of stone-like consistency.

Tim Ingold addresses the relations between materiality and matter in *Being Alive: Essays on Movement, Knowledge and Description* (2011) and makes a call for the concrete experience of material form to be registered in and through the reading process. Ingold’s point is that in most cases *materiality* and *material culture* neglect to address *materials*, the stuff of productive activity. He argues that studies of material culture in particular ‘take as their starting point a world of objects that has, as it were, *already crystallised out* from the fluxes of materials and their transformations. At this point materials appear to vanish, swallowed up by the very objects to which they have given birth’.⁴ In an attempt to get to grips with material, Ingold turns to the work of James Gibson, psychologist and author of *The Ecological Approach to Perception* (1979) and David Pye, Professor of Furniture Design at the Royal College of Art, between 1964 and 1974, to play out an argument between priorities given to matter/mind relations; to whether material properties are indeed the properties of matter or the qualities the mind projects onto them. In brief, Ingold is of the position that the world of materials is an environment, following Gibson, which is processual and relational as opposed to being the ‘fixed essential attributes of things’.⁵ This consideration of material – as always already contextualized within a set of relations that are subject to transformation through engagement – is an environment where the material particularities of sculptural forms impact on the ways in which we think about them. The world of materials and the world of humans, in Ingold’s sense, are ‘overlapping regions of the same world’,⁶ what could be

described as a ‘synthetic fusion’ between the natural and the social, the stone and the human.

Concrete as a thought process

As an adjective and a verb, concrete is used in the speculative philosophy of Hegel and reconfigured in the writings of Marx. The ‘abstract’ and the ‘concrete’ – terms familiar to German Idealists and historical materialists – describe a process, where the transition from the abstract to the concrete or from the concrete to the abstract, serves as the foundation stone upon which a system of relations is built. Hegel’s 1808 essay ‘Who Thinks Abstractly?’ delivers a verdict on the concrete.⁷ Concrete thinking is a mode of processing or capacity to consider context as opposed to registering phenomena and experience in isolation. It is the networks and pathways between distinct substances that produce the triangulated spaces of productive exchange. Hegel’s example of the saleswoman in the market who labels the convicted criminal a murderer is identified as an abstract uneducated thinker who simply isolates and fixates on a single moment of action to make a judgment. The educated person, however, is able to reflect on the possible conditions of the so-called ‘criminal’s’ life; upbringing, the circumstances of poverty, lack of education, injustice, etc. The ‘concrete universal’ (*das Konkrete Allgemeine*) for Hegel refers to the essence of a thing embedded into and constitutive of a world of interacting things; its driving force carries otherness/difference within itself as an inner principle of development, thus serving as a composite and compound category to describe the dialectical process and its operations.

Concrete, as we experience it in structural form as the end point of a fluid and relational manufacturing process, is also a concept that describes what thinking can do to itself: the ‘synthetic fusion’ of the dialectic is analogous to the ‘fusing together’ of materials in the process of producing concrete. In the *Grundrisse* of 1858, Marx addresses the differences between ‘concrete for thought’ and ‘actual concrete’ – the material particulars of differentiation which might trouble speculative processes. He agrees that the character of the concrete is there in the presence of thinking, but questions Hegel’s conception of the ‘real’ as a product of thought, arguing that the reproduction of the concrete in the mind is a tautology ‘in so far as the concrete totality is a totality of thoughts, concrete in thought, in fact a product of thinking and comprehending; but not in any way a product of the concept which thinks and generates itself outside or above observation and conception; a product, rather, of the working-up of observation and conception into concepts.⁸ As is well known,

Marx is keen to show how material life conditions are the foundation or basis for concrete relations in and through modes of productive activity. The abstract model of base/superstructure, outlined in the collection of extracts that make up *The German Ideology*, is apt in its capacity to describe the issue at hand. We all remember turning Hegel on his head as we glimpse the distortions of ourselves in the camera obscura.⁹

Adrian Rorty's description of the character of concrete usefully describes this dialectical condition. In *Concrete and Culture – A Material History* (2013) he writes:

The refusal of concrete to stay securely within any one class is one of its recurrent features. From many of the usual category distinctions through which we make sense of our lives – liquid/solid, smooth/rough, natural/artificial, ancient/modern, base/spirit – concrete manages to escape, slipping back and forth between categories. [...] To say that concrete has a tendency to 'double', to be two opposite things at once, is not a particularly original observation. Many other commentators have noticed the same thing, though they have often been at a loss to know what to do with the insight.¹⁰

These theoretical positions describe the dynamic exchanges between the abstract conditions of thinking activity (concrete as process) alongside the experiential and material conditions of existence (concrete as material). The transformative power of concrete in sculptural works is what the material itself activates through our close reading of the object, and this in turn, reveals an interplay between 'concrete for thought' and 'actual concrete'. The exchange gives place to a landscape where an interwoven matrix of physical, mental and social exchanges occur, and which, when addressed through the framework of sculpture – as idea and material form – serves as a conduit for concrete to move between the psychic and the aesthetic registrations of thought activity.

Moore's concrete experiments

In 2012, the Henry Moore Foundation acquired *Torso*, an early 1926 concrete carving of Moore's. Only 21.6 centimetres high, *Torso* is one of a series of 'technical' experiments Moore undertook between 1926 and 1934. These early experimentations in concrete test the limits of new materials alongside more established methods and practices of sculptural production. Featured in the *Moore Rodin* exhibition in 2013 at Perry Green, *Torso* is situated inside a curatorial dialogue that seeks to measure Rodin's influence on Moore through

shared approaches to figure and landscape, natural formations and processes of material transformation. Claudia Pritchard, reviewing the exhibition for *The Independent* on 30 March 2013, ends with *Torso* and remarks on the magic of its resurrection: ‘Tucked away in one case, only a few centimetres high, is Moore’s coloured-concrete *Torso* (1926). As unexpectedly taut and tense as a Rodin and uncharacteristically futuristic, it was acquired by Perry Green last year, and has not been seen by the public since the Twenties’.¹¹ Bringing a cultural object back into public circulation after such a long time discloses some uncertainty about this concrete form. Where does this figure sit in relation to other concrete examples in Moore’s corpus?

In *Henry Moore – Sculpture and Drawings*, edited by Herbert Read and first published in 1944, twelve examples of Moore’s concrete experiments are cited, dating from 1927 to 1934¹², and in John Hedgecoe’s *A Monumental Vision* (1963), a short passing note from Moore appears in an illustration caption for two concrete examples: *Mask* (1929) and *Half-Figure* (1929):

These are about 1928, when I was experimenting with cement. At the time reinforced concrete was the new material for architecture. As I have always been interested in materials, I thought I ought to learn about the use of concrete for sculpture in case I ever wanted to construct a piece of sculpture with a concrete building. The first method of using concrete I tried was building up on an armature and then rubbing it down after it had set. This I had to do very quickly because the cement and gritty aggregate mixed with it set so hard that all my tools used to wear out. Secondly, I tried casting in concrete.¹³

Torso is also cast in concrete and it is a strange composition. The figure rests at an awkward angle and its surface is dappled and pock-marked. Moore’s treatment of the concrete with a buffering technique also creates line effects of shadows and glossy reflections. Pritchard is right to point out that this work is perhaps out-of-joint with, or at an oblique angle from, the more ‘familiar’ figurations of Moore’s public works. In fact, it looks as if *Torso*’s body is looking back at the European avant-garde, a decade earlier, where key artists – Georges Braque, Pablo Picasso, Ferdinand Léger, Robert Delauney and Umberto Boccioni – were interested in the mechanomorphic qualities of ‘concreteness’ as a new materialization of the modern world.¹⁴

Perhaps the most well-known concrete example of Moore's is *Suckling Child* (1927), now a lost work. Used as a case study by Anne Wagner in her book *Mother Stone*, the concrete properties of this piece are not directly addressed, but the strange dynamic between the lost version and the alabaster version that Jacob Epstein owned and loaned to the Leicester Galleries for Moore's second solo show in 1931, serves as a focalization point for considering the psychic registrations of the maternal sign and its erasure into an alabaster abstraction.¹⁵ The story of this sculptural object travels with *Torso* – both appeared in Moore's first solo exhibition at the Warren Gallery, London in 1928. According to Wagner, the disappearance of *Suckling Child*, shortly after, 'had a strange afterlife as a virtual reincarnation'¹⁶ in the alabaster carving in Epstein's possession.¹⁷ The transmigration of a concrete memory into alabaster is not without significance, nor is Epstein's role in this process. For Wagner, Moore's reworking of *Suckling Child* through the use of another material, is also a transformation which puts the meaning of the former concrete version under some kind of erasure, and this, she argues, is part of Moore's retreat from the 'maternal sign' to 'the public economy of male identity, at least in its high modernist form'.¹⁸

What concrete demands then that perhaps alabaster does not, is a way of bringing an idea out of material form, that is, enabling the 'maternal sign' to be concretized. The alabaster, however, allows the carving method to abstract itself from the idea and to become a self-sufficient object. Wagner suggests, in her reading of the alabaster piece in the context of the 1931 exhibition:

[W]hile this oddly phallic object functioned in a public exhibition as a token of allegiance and belonging, its affective circuitry notably distanced viewers; it seems self-contained from every point of view. Gone is any sense of weight or matter. Moore's new way of carving now slips a blissfully milky skin over his figures, veiling them in a smooth coherence that is the essence of sculpture's objecthood'.¹⁹

Moore's initial reflections on his experimentations in concrete testify that the use of concrete, whether through an armature mould or by a casting process, is time-consuming and difficult. Modelling over an armature, which is Moore's first method of experimentation, involves the gradual pouring of mixed aggregate, allowing the material to build up in layers. Adding clay also allows for a certain plasticity to enable carving and smoothing finishes. The second method deploys conventional casting processes; aggregate is poured into a mould and when set is removed from the outer shell and treated by 'rubbing down' the surface.

Concrete sheds a diffracted light on the methods Moore devised to experiment with a new material and with this, opens up a space for a different reading of his early work. Concrete in Moore's practice is equivalent to the maternal sign. Moving between the psychic and the aesthetic registrations of thought activity gives place to an experience of the maternal body. This is the doubling of thought-idea and material form within the framework of sculpture.

Hepworth's Turning Forms

In 1950, Hepworth was commissioned to produce, in collaboration with the architect Jane Drew, a reinforced concrete sculpture painted white, entitled *Turning Forms*. Made from reinforced concrete it is 213.3 centimetres high and is currently installed in the grounds of a school in St. Albans.²⁰ Hepworth also exhibited a blue limestone statue of two figures, side-by-side, called *Contrapuntal Forms*. The latter's notoriety within the Festival of Britain is well established. Its position on the South Bank was evidently a key landmark within the concrete landscape. *Turning Forms* was a contract set up by the Festival authorities under the direction of Jane Drew, and as a motor-driven kinetic spectacle, was situated outside the Thames-side restaurant. Unlike Moore, there is no official published record of Hepworth experimenting with the idea of using concrete as a new material for her sculptures. Rather, it is through a collaboration between sculptor and architect that a work is engineered, which appears to traverse the field of Hepworth's *archetypal* forms.

Three photographs exist in Tate's newly digitized archives of Hepworth's collection; two are depicted on-site, the third in a workshop environment.²¹ All are documented at different angles. There is no direct reference to the kinetic mechanization of the concrete form. The work also appears in J. P. Hodin's 1961 publication *Barbara Hepworth*²² and in Hepworth's *Pictorial Autobiography*²³, where a rare photographic capture of the work from a height creates an angle that casts its own shadow. Hepworth does not mention this commission or *Contrapuntal Forms* in her autobiographical account. However, she does provide a concrete translation of 'stereognostic sense', a term she refers to in the context of explaining the forms that preside over the basic framework of her practice. For Hepworth, sculpture is the abstract interpretation or 'reaction of a *real object* which relates to our human body and spirit as well as to our visual appreciation of form and colour content'.²⁴ This transitioning of the passage from concrete experience to abstract form resides in three archetypal positions. Hepworth explains in a text written in 1951 for the catalogue of her 1954 retrospective at the Whitechapel Art Gallery:

The forms which have special meaning for me since childhood have been the standing form (which is the translation of my feeling towards the human being standing in the landscape); the two forms (which is the tender relationship of one living thing beside another); and the closed form, such as the oval, spherical or pierced form (sometimes incorporating colour) which translates for me the association and meaning of gesture in landscape; in the repose of say a mother and child, or the feeling of the embrace of living things, either in nature or in the human spirit.²⁵

‘Standing form’, ‘two forms’ and ‘closed form’ stand as *archetypes* of a sculptural logic that stem from a ‘non-discursive’ psychic or archaic register, which Hepworth translates, in the passage above, into concrete experience. Figure in the landscape, the intimacies of exchange, and the embrace of organic ‘aliveness’ are associative descriptions. The concretizing process, considered in the wider context of ‘archetype’ and ‘ectype’ relations, is necessary to fully understand Hepworth’s relationship to the abstract and the concrete.

The reception of the European avant-garde of the 1930s played a fundamental role in the development of Hepworth’s practices, as well as those of fellow artists such as Ben Nicholson. Their investment in constructivism and abstraction is materialized in the various exhibitions and publications of the 1930s, beginning with the influence of the Paris-based group *Abstraction-Creation*, formed in 1931, with which *Unit One* maintained regular exchanges. According to Theo van Doesburg, author of the *Manifesto of Concrete Art* (1930), concrete art is that which is entirely abstracted from figurative or symbolic references. This is a creative process which is non-mimetic in character. The appeal of geometric abstraction is carried through into the space of sculpture, where Jean Arp, Anton Pevsner and Naum Gabo recast the term ‘concrete’ into the space of organic fluidity, through line, plane and volume, with the aim of perceiving time through kinetic rhythm. This transformative shift from the fusion of concrete as a static material to concrete as the fluidity of a thought process is realized through biomorphic abstractions, where flowing shapes of natural forms are evoked in the concretions of stone and marble. The touring show *Abstract and Concrete*, curated by Nicolette Gray in 1936, and which featured the first exhibit of Mondrian’s work in Britain, led to the publication, one year later, of *Circle – The International Survey of Constructive Art*. A collection of essays and entries on abstraction, edited by Leslie Martin, Nicholson and Gabo, showcase the underlying drive to consider abstraction as a

concretizing activity. Interestingly, Hepworth was responsible for the design layout of the book.

The section on sculpture contains two written entries by Gabo and Hepworth. Gabo's 'Sculpture: Carving and Construction in Space' clearly defines a contradictory misunderstanding of the abstract and concrete, particularly in relation to sculpture. Whilst the 'abstract' is always already a materialized 'concrete' form subject to being perceived by the sensations, Gabo asserts that the abstract shapes of constructive sculpture are 'absolute' in that they are released from 'any already existent thing in nature and their content lies in themselves'.²⁶ In effect, he makes a call for the removal of the term 'abstract' from the lexicon of sculpture. The Constructive idea is to be read as a process by which 'absolute shapes' and psychic sensibility are part of an exchange that can transform the mind:

By the influence of an absolute form the human psyche can be broken or moulded. Shapes exult and shapes depress, they elate and make desperate; they order and confuse, they are able to harmonize our psychical forces or to disturb them. They possess a constructive faculty or a destructive danger. In short, absolute shapes manifest all the properties of a real force having a positive and negative direction'.²⁷

Gabo's consideration of 'absolute form' is derived from the bringing together of constituent parts to produce new possibilities for engaging with objects in a social/psychic material context.²⁸ The production of new space emerges out of the intertwining of the object and perception, what Gabo calls a 'sculptural space expression'.²⁹ This is made possible by the 'stereometrical method' which releases variations of mass, weight and volume in a field.

Hepworth's contribution explores how the unification between idea, substance and dimension creates the scale of sculpture. This is the spacing that connects 'form consciousness' to the world. The psychic dimension of concrete experience feeds and informs the relation between thought and material. In this respect, *Turning Forms* is an example of the sculptor's concrete thinking process, where the perception of endless variations of form-making are disclosed through the kinetic movement of the work. As Hepworth remarks in her account of the language of the sculptor:

The consciousness and understanding of volume and mass, laws of gravity, contour of the earth under our feet, thrusts and stresses of internal structure, space displacement and space volume, the relation of man to a mountain and man's eye to

the horizon, and all the laws of movement and equilibrium – these are surely the very essence of life, the principles and laws which are the vitalization of our experience, and sculpture a vehicle for projecting our sensibility to the whole of existence.³⁰

The dynamism of the kinetic is linked to a reconfiguration of the concrete, moving it away from a fixed fusion of materials in space and time to the perception of a revolving environment of intertwining forms. Gabo's model *Torsion* (1925-36) is not unlike Hepworth's *Turning Forms* in its attempts to work with new materials in a kinetic way. The Perspex model of *Torsion* was constructed in 1936 but the first model goes as far back as 1925. Gabo is clear to assert that his 'kinetic constructions' are not works of sculpture in themselves, but an 'explanation of the idea of a kinetic sculpture'.³¹ As part of an ongoing thought experiment variations of 'absolute form' are continuously expanded upon. These models led to the development of *Revolving Torsion*, a kinetic fountain sculpture outside St Thomas' hospital, which was realized in 1972. These examples show how thinking is informed by the experience of coming to know different 'qualities' and 'properties' of sculptural form. The movement between the psychic and the aesthetic is a process which concretizes an idea.

Engineering Concrete

In *The New Vision* (1938), László Moholy-Nagy discusses the construction scheme of his own kinetic system; a model developed in 1922, which depicts a structure for creating the dynamic conditions of energy exchange:

Space creation is today much more an interweaving of parts of spaces, which are anchored for the most part in invisible, but clearly traceable relations, moving in all direction, and in the fluctuating play of forces.³²

The kinetic system, devised with Alfred Kemeny, is premised on 'vital construction', where material and form are reconfigured through the dynamics of movement. Material becomes the conductor of energy. This account of kinetics travels into the space of construction engineering and to the flows of transmission between sender and receiver relations.

The Arqiva Tower was built under the administration of the Independent Broadcasting Authority (IBA). Since 1956, what is transmitted through the cables from the control room are channel franchises. When the mast collapsed due to extreme weather conditions in

1969, the concrete tower was built in sections over twenty weeks bringing it to a total height of 330 metres. Its aerial antenna became fully operational in 1971.³³ Located on Emley Moor, it is four miles from Yorkshire Sculpture Park on the Denby Dale road and can be seen at various distances across West Yorkshire. As a transmission model invisible geometric curvatures of lines or flows emanate within the landscape. They are operating conduits for the mediated imagery of culture on the television screen. Whereas the Moore and Hepworth examples are explicitly concerned with the use of material to bring idea out of concrete form, or form out of the concretion of an idea, the Arqiva tower is part of a technological landscape where telecommunication functions to transmit 'signals' for the purposes of enculturation. As a model, the tower describes a dialectical interplay between abstract and concrete modes of cultural exchange.

The Berlin TV Tower (*Fernsehturm*) was the concrete model that the Arqiva Tower appropriated for its own build in 1971 and was constructed between 1965-69 under the order of the German Democratic Republic (GDR), by East German architects Fritz Dieter, Günter Franke and Werner Ahrendt. Its location in Alexanderplatz meant that a separate broadcasting system had to be devised for East Berlin. The replication of the same model on Emley Moor does indeed carry a distinct East German concrete aesthetic with it, but its transmission operation is entirely different. The broadcast channels of the Arqiva Tower were first introduced, by an act of parliament in 1954, with the aim of counteracting, with the introduction of commercial television, the monopolization of media transmission by the BBC. The Independent Television Authority, which later became the IBA, regulated the commercial channel and franchises operating out of the new broadcasting market.

In the context of engineering and transmission certain towers appear within the wider field of art and design. Herbert Read's 1934 publication *Art and Industry*³⁴ contains a photograph of the 153 metre mast at the West Regional Transmitting Station of the BBC. Moholy-Nagy assisted Read in the procurement of the photographs for the book and this particular tower is shown at an angle from below, mirroring the underlying challenge to frontal perspectival shots. Robin Kinross describes how the majority of the book's photographs appear in documentary form with the exception of certain images, such as the BBC transmission tower, which sits 'against the backdrop of dramatic cloud formations' or the 'juxtaposed images of the BBC switching relay and the Dammerstock Siedlung'.³⁵ Read's account of the need for the artist to enter into industry, bringing a new aesthetic with them in an appreciation and understanding of the value of abstract form, is considered within the field

of industrial design, and he argues that, following Walter Gropius and the early principles of the Bauhaus, ‘wherever good forms emerge from factories, a designer with aesthetic sensibility is always present and responsible’.³⁶ More recently, the Whitechapel Gallery exhibition *Adventures of the Black Square: Abstract Art and Society 1915-2015*, showcases a wall of photographs documenting radio transmission towers in Berlin and Moscow. BBC Radio 4’s *Front Row* broadcast an interview with the curator, Iwona Blaswick, whose account of the influence of transmission on the art of geometric abstraction in the early twentieth century takes the listener across the globe and into the space of contemporary art and architecture.³⁷ The material of concrete allows the tower to come into being as a sculptural form within the landscape. It creates the space for a new exploration between concrete as a thinking process and as a material.

Types-in-relation

One of the most explicit examples of constructed forms, towers in particular, through the serialization of types are the photographs of Bernd and Hiller Becher. The aesthetic register of these structures draws upon the typology of the image, where scale, volume, materiality, surface and mass encompass a lexicon of the sculptural. The content of the photographs, classified according to ‘type’, creates an aesthetic that stands outside of the singularity of each image. Towers appear in abundance: water towers, cooling towers, coke towers and winding towers; all are groupings of objects, organized and arranged by material construction. Concrete is a key motif within this ordering process.³⁸ According to Susanne Lange, this was a methodology derived from comparative morphology: the scientific description and classification of objects:

Notwithstanding this strictly systematic approach, what brings the typologies to life is the aesthetic sensitivity of the artists, who compose impressive tableaux of e.g. 9 or 15 photographs when putting together their typologies. Each typology strikes its own chord, developing into a symphony of seemingly endless variations on similar yet different themes and condensing into a fascinating score of graphic and sculptural form.³⁹

As part of a collective index, the spacing of these serialized typologies brings ‘concrete abstraction’ into focus as an aesthetic play of form with content.⁴⁰ This particular dialectical fusion takes on the character of ‘anonymous sculptures’, a term the Bechers started to use in the 1970s.⁴¹ The preservation, in archival form, of the contradictory character of concrete

abstraction lies in the documentation of a moment of decline. They use tools and processes endemic to the flow of capital and through the aesthetic spacing generated within a serialization are able to critique the conditions of industrial deterioration. The towers morph into a dialectics of the image, where what is played out is an argument or exchange between the content of the photographic imagery (the ‘real’ concrete towers) and the abstract form created through the serialization process. This is a *Gestalten*; the unification of diverse parts *between* these types-in-their-relation.

The character of the Arqiva Tower is perhaps just another morphological type in the Becher corpus, and with its transmission function still in full operation having switched over to digital in 2011, it is a concrete construction that has undergone several transformations. Its alignment with other towers that share a similar transmission function provides the context for a new series to be generated, where, like a moving image, a sculptural wave or signal is carried through each tower-type. This mediated imagery takes the Arqiva Tower into the aesthetic space of other towers, whose components are derived from the geological, economic and technological regions within which they sit. They are also carried through into a landscape where the analogical line of cognitive enquiry is shaped by the interplays between transmission and reception. This is a turn away from an old economic order of industrial exchange, operating at ground level, to an era of the antenna; the occupation of a new set of social relations and intersecting perspectives: of art, engineering, industrial design and the abstract flows of information. Our thinking of these towers is not simply about ‘picturing’ in our minds self-contained constructed things out there in ‘reality’. Rather, it is the activity of putting these towers-into-relation that a landscape of the concrete emerges through which the abstractions of sculptural form can pass. This is our starting point for seeing creatures in space.

Bicho Pássaro do Espaço

The final example brings concrete thinking into play as a process that passes through concrete experience. Lygia Clark’s series *Bichos* of 1960 are linked to abstract and concrete relations including the interplay between the geometrics of form and organic and intuitive impulses. *Concrete thinking* registers the ‘qualities’ and ‘properties’ of sculptural form *through* concrete experience. In this context, concrete material is the human. This is the hallmark of the Neoconcretist movement and its desire to allow new abstractions to emerge within the world as part of a psychic and social landscape of exchange. The structures are made up of

metal plates or units of folded squares and half-circles at diagonals, joined and secured by a hinge. The formation of new constellations of sculptural enquiry arise through the ‘handling’ of Clark’s objects.⁴² In effect, they serve as thinking tools for sculpture. Whereas the towers explored in the previous section shed light on the wider context of types-in-relation and how as a connected field they bring the language of ‘abstract concretion’ into an environment of the flow of cultural capital and its transmissions, Clark’s series focuses on the ‘hinge’ of cognition, and with this an entry into the space of concrete thinking. This hinge is a moment of departure from the mathematical precision of geometric abstraction and an entry into the space of organic intuition. The three *Bichos* displayed at the Henry Moore Institute, between September 2014 and January 2015, are examples of another kind of thought experiment. The continuous repositioning of metal plates into different shapes is the manifestation of thinking activity. Although physical access to these forms were limited, due to their display in cabinets, the curators sought to reconfigure the *Bichos* at various points throughout the exhibition.⁴³ The shifting relations between viewer and object are brought into play through the concrete experience of these sculptures; whether ‘real’ or imagined. According to Guy Brett:

However much Clark’s later works may have been concerned with the visceral, they never lost their abstract quality: abstract not in the sense of geometry, which they soon dispensed with, but in concentrating on a dialectic of abstract qualities which are also physically experienced, such as heaviness and lightness, fullness and emptiness, warmth and cold, light and dark.⁴⁴

The emphasis placed on the role of sensory experience as ‘embodied knowledge’ is enabled by the support of these ‘creatures’. This is not the same as types-in-relation, where the series sits inside the concrete totality of a demarcated field. There is a limit to this kind of framing. Clark’s *Bichos* allow for concrete encounters in and through an exchange with an object of transformation. The unfolding of multiple configurations, the kinetic mobility of the metal planes, encountering time and space through the interplays between geometric shapes and organic movements, are concrete experiences for sculptural thinking. In effect, they are tools for an unlimited supply of perspectives. This is not to suggest that *Bicho Pássaro do Espaço* is the exemplary example of concrete thinking within this article but it does help us to re-read the theoretical landscape we began with. Whilst the examples discussed have shown variations and degrees of similarity with the theoretical perspectives outlined, the focus of the reading has also brought aesthetic play into the landscape as a necessary

'dwelling perspective' in, of and for sculpture. For Tim Ingold, 'dwelling in the world entails movement, a movement not between locations in space but between places in a network of coming and going that I call a region'.⁴⁵ Reading is a coming and going between thought and material where part of the process involves an endless repositioning of other journeys taken. Dwelling with concrete reveals how it is a composite and compound category of the dialectical process and its operations. It is a material that embodies the fluidities of exchange between its own specificity in selected works, its capacity to inhabit a wider region to allow for dynamic juxtapositions to occur and to bring an interwoven matrix of physical, mental and social exchanges into view. This is what we find ourselves doing when we walk with examples: as we dwell in a landscape intertwined with transformative objects 'concrete' allows us to move freely between the psychic and aesthetic registers of our own thinking.

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Bio-note

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² Bal, Meike. *Travelling Concepts in the Humanities: A Rough Guide*. London: University of Toronto Press, 2002, 45.

³ Bal, *Travelling Concepts in the Humanities*, 45-46.

⁴ Ingold, Tim. *Being Alive: Essays on Movement, Knowledge and Description*. London: Routledge, 2011, 26.

⁵ Ingold, *Being Alive*, 30.

⁶ Ingold, *Being Alive*, 31.

⁷ See Hegel, G. W. F. "Who Thinks Abstractly?" In. Walter Kaufmann, *Hegel: Texts and Commentary*. Garden City, NY: Anchor Books. 1963, 113-118.

⁸ Marx, Karl. *Grundrisse*. Translated by Martin Nicolaus. Harmondsworth: Penguin Books, 1973: 101. The full passage runs as follows: [...] to the kind of consciousness—and this is characteristic of the philosophical consciousness—for which conceptual thinking is the real human being, and for which the conceptual world as such is thus the only reality, the movement of the categories appears as the real act of production—which only, unfortunately, receives a jolt from the outside—whose product is the world; and—but this is again a tautology—this is correct in so far as the concrete totality is a totality of thoughts, concrete in thought, in fact a product of thinking and comprehending; but not in any way a product of the concept which thinks and generates itself outside or above observation and conception; a product, rather, of the working-up of observation and conception into concepts. The totality as it appears in the head, as a totality of thoughts, is a product of a thinking head, which appropriates the world in the only way it can, a way different from the artistic, religious, practical and mental appropriation of this world.'

⁹ Marx and Engels write: 'If in all ideology men and their circumstances appear upside-down as in a camera obscura, this phenomenon arises just as much from their historical life-process as the inversion of objects on the retina does from their physical life-process. In direct contrast to German philosophy which descends from heaven to earth, here we ascend from earth to heaven. That is to say, we do not set out from what men say, imagine, conceive, nor from men as narrated, thought of, imagined, conceived, in order to arrive at men in the flesh. We set out from real, active men, and on the basis of their real life-process we demonstrate the development of the ideological reflexes and echoes of this life-process'. Marx, Karl and Engels, Friedrich. *The German Ideology*. London: Lawrence and Wishart. 1970. 47.

¹⁰ Rorty, Adrian. *Concrete and Culture: A Material History*. London: Reaktion Books, 11.

¹¹ Pritchard, Claudia. 2013. "Visual art review: Rodin comes acalling at Henry Moore's place ... it's the great bronze off!" *The Independent*, March 30. <http://www.independent.co.uk/arts-entertainment/art/reviews/visual-art-review-rodin-comes-acalling-at-henry-moores-place---its-the-great-bronze-off-8555129.html>. See also Feldman, Anita "Henry Moore: Exhibitions/Conservation/Acquisitions" In *The Henry Moore Foundation Review 2011/13*, 6-13. Belgium: Albe De Coker/The Henry Moore Foundation, 2013. http://www.henry-moore.org/docs/file_1404300386945.pdf.

¹² The selection of works in terracotta and concrete within the book include: *Suckling Child* (1927), 17ins, *Reclining Woman* (1927), *Mask* (1928), *Mask* (1927), *Duck* (1927), *Figure in Concrete* (1929), *Seated Figure* (1929), *Figure in Concrete* (1929), *Mother and Child* (1930), *Reclining Woman* (1932), *Reclining Figure* (1933), *Composition* (1934), *Composition* (1933). See Read, Herbert, ed. *Henry Moore Sculpture and Drawings*. London: Lund Humphries and Company Ltd, 1944, 57-70.

¹³ Hedgecoe, John. *A Monumental Vision: The Sculpture of Henry Moore*. London: Collins and Brown, 1963, 228.

¹⁴ We know that Moore first travelled to Paris in 1923 and was later awarded a travelling scholarship in 1925, which took him back to France and to Italy.

¹⁵ Anne Wagner works with the professional photographic prints taken of the concrete version in 1927, a rare archival document of a lost work.

¹⁶ Wagner, Anne, Middleton. *Mother Stone: The Vitality of Modern British Sculpture*. New Haven and London: Yale University Press. 2005, 114.

¹⁷ Other concrete examples were also on exhibit in the 1935 exhibition *Unit One*. See *Mapping the Practice and Profession of Sculpture in Britain and Ireland 1851-1951* ("Unit One Exhibition. Glynn Vivian Art Gallery, Swansea, 1935". University of Glasgow History of Art and HATII, online database 2011; accessed December 22, 2014) http://sculpture.gla.ac.uk/view/event.php?id=msib1_1205923295.

¹⁸ Wagner, 2005, 120.

¹⁹ Wagner, 2005, 120.

²⁰ See Barbara Hepworth. "Commissions." Barbara Hepworth. Accessed December 3, 2014.

<http://barbarahepworth.org.uk/commissions/list/turning-forms.html>

²¹ Tate Archive. "Dame Barbara Hepworth 1903–1975, Volume of Sculpture Records 1950". (Photographs and notes of the sculptures compiled by Barbara Hepworth. Sculptures BH 164-166/Reference TGA 7247/20). Accessed 3 December 2014. <http://www.tate.org.uk/art/archive/tga-7247-20/hepworth-volume-of-sculpture-records/7>

²² Hodin, J. P. *Barbara Hepworth*. London: Lund Humphries. 1963.

²³ Hepworth, Barbara. *Barbara Hepworth: Pictorial Autobiography*. London: Tate Publishing. 1985.

²⁴ Hepworth, *Pictorial Autobiography*, 53.

²⁵ Hepworth, *Pictorial Autobiography*, 53.

²⁶ Gabo, Naum "Sculpture: Carving and Construction in Space". In. *Circle: International Survey of Constructive Art*. Edited by J. L. Martin, Ben Nicholson, Naum Gabo. London: Faber and Faber Ltd. 1971, 109.

²⁷ Gabo, *Circle*, 109.

²⁸ For a detailed account of Gabo's practice in the wider contexts of design and materialism see: Lessard, John. "From Lamps to Enlightened Materialism: Naum Gabo and the Problem of Functionalist Design"

Modernism/Modernity 17, No.4 (2010): 779-798. DOI: <https://muse.jhu.edu/>

²⁹ Gabo showcases Cube II as an example where this 'inner space' is articulated. Gabo, *Circle*, 107.

³⁰ Hepworth, Barbara "Sculpture" In. *Circle: International Survey of Constructive Art*. Edited by J. L. Martin, Ben Nicholson, Naum Gabo. London: Faber and Faber Ltd. 1971, 115.

³¹ Gabo, *Circle*, 109.

³² Moholy-Nagy, László. *The New Vision: Fundamentals of design, painting, sculpture, architecture*. New York: W.W. Norton & Co., 1938. 184-8.

³³ For further details of the construction of the concrete tower see: Independent Television (now ITV). "Tale of a Tower." TV Movie. Directed by Frances Harvey. 1971. Independent Broadcasting Authority (IBA), 1971.

³⁴ Read, Herbert, *Art and Industry: The Principles of Industrial Design*. New York: Horizon Press, 1984.

³⁵ Kinross, Robin. "Herbert Read's Art and Industry: A History" *Journal of Design History* 1, No.1 (1988): 40. DOI: doi: 10.1093/jdh/1.1.35

³⁶ Read, *Art and Industry*, 35.

³⁷ See: Whitechapel Gallery. "Adventures of the Black Square: Abstract Art and Society 1915-2015." Curated by Iwona Blazwick. 15 January-6 April, 2015. <http://www.whitechapelgallery.org/wp-content/uploads/2014/10>Title-and-List-of-Artists.pdf>. Front Row. "Bradley Cooper, Adventures of the Black Square, Islamic art, Paula Hawkins." BBC Radio 4. Broadcast: January 14 2015. <http://www.bbc.co.uk/programmes/b04xrl8p>

³⁸ With the documentation of coal mines and ironworks, in particular, the Bechers travelled to Holland, Belgium, France and eventually to England, Scotland and Wales on a British Council travel grant in 1965-1966. Their photographic records of industrial coal mining collieries and towers of bunkers and blast furnaces brought them to Sheffield and to Eggbrough, near Selby.

³⁹ Lange, Susanne. "History of Style – Industrial Buildings: the Photographs of Bernd and Hiller Becher." In. *Basic Forms of Industrial Buildings*. London: Thames and Hudson, 2005, 15.

⁴⁰ This is a term that appears in the context of Marx's *Das Capital* to describe how concrete labour practices produce the use value of a commodity, whilst its exchange value is calculated by the abstract labour needed for its production. See Marx, Karl. "Ch. I Commodities." In. *Capital*. Oxford: Oxford University Press. 1999, 13-50.

⁴¹ See Lange, *Basic Forms of Industrial Buildings*, 15.

⁴² See in particular, Dezeuze, Anna. "Minimalism and Neoconcretism." *Henry Moore Institute Online Papers and Proceedings*. 26 March 2006. http://www.henry-moore.org/docs/file_1363186123132.pdf.

⁴³ See Henry Moore Institute. "Sculpture Creatures [speakers: Michael Ashbury, Briony Fer, Gareth Evans, Richard Deacon]" Henry Moore Institute Conference Series. (Sound disc, 176 minutes). 26 November 2014.

⁴⁴ Brett, Guy. "Lygia Clark: In Search of the Body." *Art in America*. Westport, Connecticut, 82. No.7 (1994): 60.

⁴⁵ Ingold, Tim. *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*. London: Routledge, 2000. 155.