Karan August and Lara Schrijver

This issue of Footprint has travelled a long road. While our intuitions on the potential role of analytic philosophy began to crystallise in early form some time ago, it was only in beginning to set out the context of architecture in relation to its typical affinity with continental philosophy over the past three decades, that we began to explore some of the fundamental connections between philosophy and architecture. While philosophical approaches might be seen as part and parcel of architecture practice from its most clearly defined beginnings in Vitruvius's well-known Ten Books on Architecture (ca 27 BCE), it is particularly in the last decades of the twentieth century that philosophy took centre stage. In the late 1980s, architecture positioned itself as meaningful cultural intervention with reference to many philosophical perspectives on the social and the aesthetic. In this period, numerous studies that would strictly speaking fall outside the realm of architecture were re-engaged. From the ethnographic studies of Lévi-Strauss's Tristes Tropiques, to Deleuze and Guattari's intellectual acrobatics in A Thousand Plateaus, to the existential questions in Heidegger's Building Dwelling Thinking, many explorations of a highly cerebral nature were incorporated in the design premises of projects such as Peter Eisenman's House VI, in Daniel Libeskind's Micromegas and even in early work by Steven Holl to name but a few. Philosophy became an almost necessary springboard from which to define a work of architecture. In this period, academics and architects alike embraced ideas emerging from philosophy, particularly through the works of

continental philosophers. Remarkably, references to analytic philosophy remained distinctly absent within the primary sources of architecture history and theory.

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In essence, one could argue that philosophy and architecture make natural bedfellows, as they seek to understand some of the most fundamental concerns of human existence: the issue of shelter as the first architectural gesture is but a small step away from the ethical question: how do we wish to live, or what is the good life? The desire to house our institutions in purposeful, representative and significant edifices is intimately linked to issues of aesthetic judgment, and the question of how we perceive beauty (or a lack of it). At the same time, philosophy also questions our means of questioning, our means of the very discourse of inquiry through the study of knowledge and logic. The four core branches of philosophy - metaphysics, ethics, logic, and epistemology - have spawned countless further specialisations, which ebb and flow in popularity. While architecture thinking has freely adopted and adapted the continental philosophies of metaphysics and ethics, the domains of logic and epistemology have been less visible. While we acknowledge the limitations of a simplified distinction between two 'camps' of thinking, this issue of Footprint sought to open the discussion on what might be offered by the less familiar branches of epistemology and logic that are more prevalent and developed in the analytic tradition.1

Simply put, epistemology as it formally emerged with Plato (427-347 BCE), is the study of how we know that we know. It examines the justifications of knowledge and why we are able to claim something is true and something else is not, or why we can have a justified true belief.² In 2016, the algorithms and lexicographers at Oxford Dictionaries declared 'post-truth' to be the word of the year.³ Other prominent Anglo-Saxon media groups such as Forbes, the New York Times, and the Huffington Post announced our societal entry into a post-truth era, age, or political arena.⁴ As provocative and suggestive as these statements are, however, we can hardly claim to have had an 'era of truth': truth has never been a simple or straightforward thing, but rather a complex narrative of power, perspectives, (scientific) observations, individual interests and political engagements, even in the so-called 'hard' sciences.⁵ While areas of continental philosophy such as post-structuralism and deconstruction have helped clarify the discourses of power and identify alternative perspectives, there may in this time of 'post-truth' be a pointed role for the clarifying tools and techniques of analytic philosophy.

Gottlob Frege (1848-1925), G.E. Moore (1873-1958), Bertrand Russell (1872–1970) and to a lesser degree, Rudolf Carnap (1891-1970) are widely considered as central figures in the foundation of analytic philosophy. Frege in particular is generally taken as the grandfather of analytic philosophy, founding the modern logic that would drive Russell's later Principia Mathematica, with the two-volume work: Die Grundlagen der Arithmetik: eine logisch mathematische Untersuchung über den Begriff der Zahl (The Foundations of Arithmetic: A Logico-Mathematical Enguiry into the Concept of Number), published in 1884. Although it should be noted that some have cited Frege's aim of 'demonstration that arithmetic had its foundations in pure logic alone' as reason to reject his influence in founding analytic philosophy.6 The analytic approach can be explained at a multitude of levels, which would

allow scholars to include and exclude people and ideas depending upon priorities of the argument. However, for the purposes of architecture thinking, it is interesting to consider Frege's project in relation to the analytic camp and our current predicament of a post-truth era.

Logic formally emerged in Western culture with the ancient Greeks, and the logical system composed by Aristotle (384-322 BCE) remained dominant in scholastic circles for over a millennium, only changing when Frege developed the modern formal system, which effectively constituted the first 'predicate calculus'.7 Freqe's approach separated statements into function and argument, rather than the more traditional subject and predicate of Aristotle's logic. Predicate calculus helped separate the logical content from the sign through which its function was expressed. As such, a group of statements became possible independent of the content of the signs. Frege's explicative system of language utilisation is the underlying reasoning from which he abstracts two arguments for the indefinability of truth. Frege claims that by employing language, people intend to denote objects that are independent of their own consciousness. These denoted objects are the meaning of these signs, the Bedeutung. Here, we adhere to the original German term Bedeutung due to its particular ontological status in the work of Frege. As he explains it, by uttering a sentence, we intend to speak about the objective things denoted by the sentence. However, sometimes there are situations in which a person believes one sentence that has a certain Bedeutung and not another that has the identical Bedeutung. Such situations demonstrate a rift between the sentence and its Bedeutung. Consider the following example of John: John believes that the sentence, 'The Evening Star is Venus' is true, but John does not believe that the sentence, 'The Morning Star is Venus' is true. For Frege, both individual words and whole sentences have a Bedeutung. The Bedeutungen of these two sentences are identical.

Hence, John's belief in the truth of one sentence and not the other shows that language allows the *Bedeutung* to present itself in an additional form. This aspect is what Frege calls the 'sense of the sentence'. Sometimes, but not always, the sense of a sentence is a thought.⁸ A sentence with components that assert something expresses a thought.⁹ The sense of a sentence is the way in which the sentence is understood or grasped. The sense of a sentence accounts for the discrepancy that language affords between a sentence and its *Bedeutung*. In this case, John understands the *Bedeutung* of both sentences and only the thought of the first sentence.

A sentence may also have a sense and not a Bedeutung, e.g. 'In the end, it was Hippolytus's devotion to Artemis that sealed his fate'. Here the sentence has a sense; that Aphrodite will not stand by, while Hippolytus boasts of being chaste in honour of Artemis. However, Hippolytus and Artemis are mere fictions, and cannot denote any object in reality; that is, the words do not assert anything. Therefore, the sentence as a whole does not have a Bedeutung. Notice that the sentence has an assertoric form. Sentences that have a sense, but not a Bedeutung, do not assert anything about reality; however, due to their assertoric form, a thought is expressed. These types of sentences are employed in poetry, acting, and as the dependent clause of a conditional sentence;10 in short, when 'we are not speaking seriously'.11 Because these sentences do not make claims about reality, they are neither true nor false. Hence, truth and falsity are not applicable to fantasy or fiction. Additionally, the sense of the sentence, or in privileged cases, the thought, must be grasped to understand the sentence. It is this structure that grounds Frege's argument for the indefinability of truth. It is within his network of concepts that he finds that some concepts defy definition.

Drawing upon Frege's structuring of language,

we find that sentences of the privileged assertoric sentence-form that make serious claims can express a true thought.¹² This is because only an assertion makes a claim about objective reality. The assertion claims a truth about objective reality. An assertoric sentence can express a true thought. Hence, assertions presuppose the concept of truth. Definitions are assertions. Thus the correspondence theory presupposes an understanding of truth, in that it asserts something about reality. Likewise, the redundancy theory draws upon Frege's structuring of language to claim that truth is already presupposed in an assertoric sentence, so any further predication of truth merely repeats the prior assumption.

Freqe lays out the following premises to clarify his application of the concept of truth: first, he is concerned with the scientific concept of truth and not the artistic concept of truth. This may be understood as Frege's plea to be taken as within the objective field of reason, as opposed to within the artistic concerns of genuineness or veraciousness.¹³ Secondly, truth is only applicable to intentions.¹⁴ The truth that Frege calls into question is the concept of truth, and hence an intentional phenomenon. It is in the sense of objective thought that truth looks like a property of an intentional statement. Something is called true 'only with respect to an intention that the idea should correspond to something'.¹⁵ Thirdly, truth is not a relative term.¹⁶ If truth were a relative term, then the term itself would give some indication of something else to which it was to correspond. However, the term truth does not suggest that with which it is intended to correspond.

The importance of establishing the link between language, truth, and something independent in reality (*Bedeutung*) was key to Frege's primary project of establishing an unlimited language that reached logical truths. In other words, Frege was interested in a means of communication that dealt with logical truths. Although Frege's work gave birth to the philosophy of language, modern logic, and predicate calculus, the fundamental aim of reaching an unconditional logic through the language of mathematics alone was ultimately proven impossible by Russell's Paradox. The paradox disproved Frege's Basic Law V. Frege defines numbers explicitly as extensions of concepts. Frege's explicit definition of numbers states: 'The Number which belongs to the concept F is the extension of the concept "equal to the concept F".¹⁷ This attempt to define numbers draws upon the understanding that if given any concept F, then the notion of equinumerosity can be used to define the concept ranging over concepts. That is, 'equal to the concept F' is the concept of equinumerosity that ranges over the concept F and the extension. By these means, Freqe collects all of the equinumerous concepts to a given concept F into a single extension. Frege defines 0 as Number x (x \neq x) and defines 1 as Number x (x = 0), that is, as Number x (x = Number y (y \neq y)). With these definitions of 0 and 1, Frege utilises mixed identities. With the inclusion of extensions, the paradox arises by considering the set of all sets that are not members of themselves. Such a set appears to be a member of itself if and only if it is not a member of itself, hence the paradox. Some sets, such as the set of all coffee beans, are not members of themselves. Other sets, such as the set of all non-coffee beans, are members of themselves. So if we call the set of all sets that are not members of themselves S, if S is a member of itself, then by definition it must not be a member of itself. Similarly, if S is not a member of itself, then by definition it must be a member of itself. Russell's paradox stems from the notion that any condition may be used as an extension. Therefore, attempts at resolving the paradox have typically concentrated on various means of restricting the principles governing the existence of extensions. Restricting the domain, however, is not a move Frege was ultimately willing to make. Any restriction of the domain would render the method detached from pure logic, therefore becoming an arbitrary model of knowledge - which was an

inevitability Frege eventually accepted.18

Frege proposed the existence of a logical language that when it was appropriately set up, could be employed to resolve complex philosophical questions. It was a totalising project much akin to what Michel Foucault would later describe as continental philosophy, noting that 'from Hegel to Sartre [continental philosophy] has essentially been a totalising enterprise'. ¹⁹ In the end, given Russell's paradox of the set of all sets. Freqe conceded that any philosophical language was only valid within the parameters it established. Nevertheless, later analytic philosophers acknowledged the tools that propositional logic provided and set out to establish ways of discussing philosophy issues with the analytic structure and rules but in the more widely accessible language of English. The shortcomings of analytic philosophy were thus immediately visible: an almost historical portrayal of philosophy, arguments abstracted from their lived context, and a necessarily, artificially limited domain (as proven by Russell's Paradox). However the core strength that fuelled its relevance in twentieth century Anglo-Saxon thought was that it provided both a platform and a linear structure to compare diverse and complex philosophical questions.

The strength analytic philosophy offers to architecture is not its capacity to spark originality, creative artworks, or ideas and objects that can live and thrive in the complexities of an ever-emerging world. The power of analytic philosophy is to reduce the challenges of communication to classifiable and manageable boxes that can help us to communicate across the chasms of emotions, circumstances, and pre-determined understandings. As all of us who have witnessed the political shifts in the last year are well aware, the challenge of establishing a functioning cohesion of will, power and ideas that may begin to adequately address the plethora of problems inherent to our shared global society, will not be resolved by labels or witty word play. For example,

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the morning after the Brexit referendum, one of the editors of this issue walked to work in a part of the UK which predominately voted 'out'. She is not English and from across the street a man yelled, 'Now you have to go home!' The next day, she flew to Berlin, where Tegel Airport has positioned immigration control stations at each gate. As passengers filed off the short flight from London, each passed a desk to show their passport and have their fingerprints taken. At this gate there were two desks, each with an EU flag over it. Yet when speaking English at the desk, she received an aggressive response: 'you are not part of the EU anymore, this desk is for EU members only'. Other members from the crowd velled, 'Die Engländer waren niemals Europäer, es ist die Zeit, die sie verlassen haben!' (The English were never European, it is time they left!), another yelled, 'She is still Human, we are all Human'. For context, much of her family lives in Berlin, but in this case, she was travelling on a New Zealand passport. In essence, she was neither English nor German enough to enter without emotions erupting. Returning to the States in February of 2017 was no less of an event. At this temporal junction emotions and 'alternative facts' are driving actions. In order to protect the rights fought for in the last century and currently accepted as default or even universal rights, we must be strategic and not emotional.

For an individual traversing the urban landscape and negotiating political constructs at multiple scales, an immediate issue is not whose truth is 'better'; the issue is how to communicate with the other enough to move through the metaphorical or physical border crossing. To create as architects, one must have an idea of the possible object, yet creation also requires the skill to pass through these checkpoints of convincing the other – the patron who funds the production, the local planning officers who legalise the project, and the contractors who physically constructs the structure – that one's idea of a particular building is valid, is true. In creating an architectural object we generate an idea of what *could* be, and then through sequences of both selfcritique and critique by others, amend, adapt, and defend the idea of our object. This issue of *Footprint* sought to focus on this smaller strategic aspect of architecture.

A particular strength of analytic philosophy is its capacity to structure questions and communication such that individuals from radically different backgrounds can find common ground. This methodology is inherently reductive, but affords the possibility of a shared medium. The method is to define a boundary, set, or environment, to establish the rules operating within that environment, and only then to debate. As architects and citizens, this skill of creating an environment for discourse (albeit an ephemeral and artificially limited one) is essential in our current period of claims of truth justified by impassioned emotions. In other words, we cannot pretend that the logical rules that operate in our own way of understanding the world, are shared by others in our society. We cannot remain confused as to why our 'rational' arguments are not convincing the other of our truth. If an aim is to achieve a means of addressing any of the political challenges, we must come to a point where we can project ourselves into the logical environment of the other.

As editors and scholars, we grant the significance that continental philosophy offers the individual creative process of generating architecture, and also the intellectual imperative for understanding the ethical, historical, and political context of our field and practice. Nevertheless, the time is ripe to question if anything from the analytic camp could be brought back into the fold of architecture thinking. Might the architecture debate benefit from the less central traditions of analytic philosophy and of pragmatism, as they offer the means to address finite, localised, and tangible issues within architecture? The field of architecture has developed significantly since Vitruvius first set out the study necessary to the

profession. Might increasing complexities emerging in this field, for example the ethical implications of new materials, the increasing independence of algorithms, or the legal incentive to copyright one's practice, benefit from an approach informed by the finely detailed scholarship of thinkers such as Frege, Wittgenstein, Carnap, and Quine? Might the more recent scholarship of Jackson, Dummett, and Oswald Hanfling offer method, style, and findings to the scrutiny of architectural thinkers? Might the emphasis on rule-based systems, clarity of argument and formal logic in the analytic tradition aid in understanding the conditions within which architecture is realised? As such, this issue of Footprint should be taken as the opening of a conversation rather than its definitive statement. As an initial question, it provides a broad span of articles that each takes elements of analytic philosophy, building on the premises of a systematic mode of communication and a mode of inquiry that may provide new insights for the theory and practice of architecture.

This issue begins with Tim Gough's article 'G.E. Moore's Principia Ethica and the Complex of Architecture'. Beyond providing a clear and precise account of analytic philosophy's role and positioning it within the history of ideas, Gough's reading of Moore's Principia Ethica provides fresh insight into the concept of an organic whole. The article lays out the complexity of the abstract philosophy issue with great care and in detail, and then applies this analysis of Moore's organic whole and the notion that some concepts are above further scrutiny to the practice of architecture. In so doing, it provides a context for architectural judgments beyond the criteria of contemporaneous style or technical coherence. The limitation of acting in accordance with certain criteria raises the question whether there is another means of analysing good architecture. For those unfamiliar with Moore's final chapter his identification of the two highest forms the good may come as a surprise.

Pauline Lefebvre's 'What Difference Could Pragmatism Have Made? From Architectural Effects to Architecture's Consequences' addresses how a pragmatist critique of architecture may help escape the constraints of market-led architecture. If Gough's article re-establishes the subject of critique, Lefebvre's demonstrates a new means of criticism. Lefebvre's paper interrogates the postcritical period of architecture in the early 2000s and rejects the reductionist simplification that left thinking subjected to the logic of the market. Her careful study of relevant architecture thinking at the time and of philosophical pragmatism offers a fresh form of communal and self-critique for the creative process of producing architecture. Lefebvre's article is a powerful and highly accessible account of what pragmatism can offer, by forcing a wedge between the populist common sense mantra of pragmatism and the rigorous philosophical structure of pragmatism that takes the object as always in-the-making rather than statically complete.

Design processes in architecture and urbanism by their very nature have a strongly defined relation to the legislative and regulatory structures of urban master plans, and architectural and structural building codes. For example, in 2010 when asked how he could build such surreal spaces, architect Terunobu Fujimori replied that in Japan, structures smaller than ten square meters did not require building consent. Analytic philosophy in this case may offer a perspective that grasps these particular interventions as experiments in expanding the role of the architect within a highly constrained field. In this sense, Fujimori's response becomes an example of finding alternate solutions for localised obstacles; for understanding the limits and internal logic of the other and finding a way to traverse its trappings.

In 'The Triumph of Function over Form. The role of analytic philosophy in planning and analysing

modern architecture' Borbála Jász provides a nuanced case study of architecture emerging from twentieth-century central European intellectual culture; a mode of thinking that significantly contributed to and established analytic philosophy. Akin to Japanese regulations setting the boundaries of Fujimori's work, Borbála Jász draws out the implications of the political will on architecture through significant moments of the twentieth century. As such, the article provides a case history of employing an analytic form of criticism to the creation and production of architecture.

Picking up on the contributing philosophers of the Vienna Circle, Andrea Dutto's 'The Mosaic and the Pyramid: Otto Neurath's Encyclopedism as a Critical Model' delves deeply into the details of key players, in particular Otto Neurath and his adaptation of Marxism in city planning and building production, getting down to the technicalities of analytic philosophy language issues.

We each engage the creative process uniquely, yet at some point we must learn how to refine our craft. In teaching others or developing our own perceptive process, we build upon layers of previous learnt skills and means of structuring the world. Pickersgill's 'Possibilia: Possible Worlds and the Limitless in Architecture' offers another approach to critically understanding the significance of critique for the process of architecture. In the process of creating design there are moments when we inevitably hit a wall; Pickersgill presents how logic and modal logic may help those it resonates with to critique their own work to develop and push the project forward. Pickersgill offers the tools developed in analytic philosophy, particularly logic and modal logic for the use of architectural critique. Architecture is both an individual and shared dialogue, whether it is with oneself at the desk or with students at review sessions, or in journals as reviewers, at its best architectural critique pushes our discipline forward, ever adjusting and adapting to the ever changing bio-political ecosystem within which we work.

Much akin to the study of personal identity, Fabio Bacchini's 'The Persistence of Building and the Context Problem' directs the classic analytical issue of identity over time towards a collection of noteworthy examples of architecture. The identityover-time question centres on the issue of change, on the question how an object can change yet be the same object before and after the event. In other words, can we observe change in action, and if so, how?²⁰

Returning to a philosophy that suggests a fresh bridge between theory and practice, David Macarthur's 'Reflections on Pragmatism as a Philosophy of Architecture' closes the issue. In accordance with Lefebvre's 'What difference could Pragmatism have made? From architectural effects to architecture's consequences', Macarthur points to the significant project of Joan Ockman at the turn of the century. However, Macarthur directs the inquiry to put pragmatism and architectural 'philosophical vampires' into the wider philosophical context reasserting and clarifying the role of philosophy as an orientation towards thinking rather than an ideological theory. The article particularly provides a rereading of the criticality vs post-criticality debate in the light of this nuanced contextual of pragmatism within both the fields of philosophy and the architecture of Rem Koolhaas. In concluding it draws out four relevant ramifications of philosophy for the practice of architecture.

This issue of *Footprint* brings together papers searching for another means of criticality in architecture discourse that are not subjected to personalities, specialist knowledge of individual philosophies, or dependent on presumed operational logic. Rather the various articles attempt to demonstrate that such difference of background assumptions is a common human habit and that some of the techniques of analytic philosophy may help to leap these chasms between 'alternative facts'. The hope is that this is a start of a larger conversation in architecture theory that has as of yet not begun.

In closing, we would like to pay tribute to Professor Hubert Drevfus who passed away this spring and is greatly missed. As this issue was in its final stages, his passing signified the loss of a generous and open-minded scholar. Drevfus was interested in phenomenology and existentialism, via Heidegger, Merleau-Ponty, Foucault, and Kierkegaard. Dreyfus above all else honoured the pursuit of knowledge in order to get at the phenomenon itself. One of Drevfus's most admirable habits was his ability to take any question, however mundane, and draw from it the most provocative and insightful point, as though his very comportment to the world was an authentic pursuit of knowledge, that engaged the other as a friend. In calling for this issue on analytic philosophy our aim was not to undermine the wealth of knowledge continental philosophy continues to generate; but rather to bring those aspects of analytic philosophy that pursue the same phenomena, back into the fold of our shared history of ideas.

Notes

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- 9. Ibid., 329.
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- 18. Frege, Foundations of Arithmetic; Hans Sluga, Gottlob Frege (London: Routledge & Kegan Paul, 1980); Michael A. E. Dummett, Frege: Philosophy of mathematics (Cambridge, MA: Harvard University Press, 1991); Pierre Bourdieu, The Logic of Practice (Stanford: Stanford University Press, 1990); Bob Hale and Crispin JG Wright, The Reason's Proper Study: Essays towards a Neo-Fregean Philosophy of Mathematics (Oxford: Oxford University Press, 2001).
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Biography

Karan August is currently on sabbatical completing a monograph provisionally titled: *Building Beauty with Kant, An Aesthetic Rehabilitation.* Since 2007 she has taught philosophy, art history and design studio courses at Plymouth University, Delft University of Technology, and Victoria University, Wellington. Her formative academic training was in philosophy at the University of California, Berkeley.

Lara Schrijver is Professor in Architecture at the University of Antwerp, Faculty of Design Sciences. Earlier, she taught at Delft University of Technology and the Rotterdam Academy of Architecture. She has served as editor for *Footprint* journal and OASE. Her work has been published in the Journal of Architecture, Architecture Theory Review, and Harvard Design Magazine. Her book Radical Games was published in 2009, and in 2016 she co-edited the volume Autonomous Architecture in Flanders. 9