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Border crossings: Student drawings as strategic thinking for metacritical and embodied learning

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ABSTRACT

In this article I examine a select group of drawing exercises presented in the early part of the first-year drawing programme in the Department of Visual Art, University of Johannesburg (UJ), South Africa. As many of our first-year students have little formal drawing experience before entering the programme, these drawing exercises confront received conventions of drawing that run counter to more productive strategies of metacritical thinking about how one draws. I explore how the drawing exercises under discussion embrace haptic knowledge, thinking, and doubt, through developing cognitive and kinaesthetic awareness. Such awareness facilitates embodied experiences of looking, drawing, and thinking that counter rote and uncritical picture-making.

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Introduction

> The aim is to leave on the paper a trace of our contact with this object and this spectacle, insofar as they made our gaze and virtually our touch, our ears, our feeling of risk or of destiny or of freedom vibrate – Maurice Merleau-Ponty (1973:150).

Teaching drawing to first-year university students for 25 years has focused my attention upon those things that are crucial as a basis for scaffolded learning over those things that constitute merely short-term learning opportunities. In this time, I have encouraged my students to become aware of those metacritical instances in which their self-consciousness – including passages of fear, struggle, and doubt – becomes opportunities for reflexive learning. What I stress to my students is that they are not learning to make pictures of things but are attempting to get under the surface of image-making so that processes of observation and thoughtful mark-making are evident in their drawings. My students' application portfolios include a drawing of a chair or shoe as a compulsory project in which the illusion of form and spatial depth must be depicted. The danger of such exercises, however – especially for those students who have little prior drawing training but who are given a space in the first-year programme – is the assumption that their drawings must have been 'good enough'.

Fig. 1. A selection of 2023 application drawings into the 1st year Visual Art programme at UJ

New York-based drawing teacher Tara Geer (2011:45) describes such assumptions and initial practices as drawing "according to a reliable agenda, a set of heuristics." Like me, Geer (2011:45) finds that these early drawings "rely predominantly on edgelines, specifically the outside defining contour of the object. Even if that student feels insecure about where exactly those are." The set of heuristics brought to the first object-drawing classes of the first year reveal an over-reliance on "a continuous and closed bounded edge. The line itself is very even. Even if the internal space of that thing is not so clear – it looks flat, or awkward – their edges are quite clear" (Geer, 2011:45). Geer describes a seemingly common set of coping strategies built upon the conceits and conventions of black-bounded imagery contained in colouring-in books to which children are often exposed from a young age. Such books provide supposed certainty of shape and clarity of edge to images which the young child is often instructed to meekly colour in. What the young child then focuses on is a set of tasks that have little to do with drawing, invention, and symbol-making. Instead, they merely decorate a set of pre-determined visual schema that drain creative thinking and short-circuit the mind-hand relationship characteristic of freehand drawing, at which all children are naturally adept. Blank sketch books are far more productive in generating children's personal narratives, symbol-making, and experiences of being-in-the-world. Maurice Merleau-Ponty (1973:151) supports this when he writes that "the child's drawing situates 'objective' drawing in a series of expressive operations which seek, without any guarantee, to recover the being of the world and to make us perceive objective drawing as a particular example of that endeavour." Mick Maslen and Jack Southern (2014:10) describe how "drawings by children often become a concrete realisation of what the subject matter they are drawing feels like, as a 'whole' sensory experience." It is little wonder then, that the ubiquity of given, uniform, black contours ingrain themselves as coping strategies in the drawing of first-year students all over the world.

Geer (2011:50) concludes her ideas on drawing strategies that might move these students away from heuristic coping strategies by stating:

> Oddly, I don't think drawing teaches people to observe so much as it gives them practice in what observation actually is. I don't have the feeling I am teaching something they do not know how to do exactly, but something they are not used to accessing – perhaps a capacity inhibited by our normative processing needs.

It is in such self-conscious and reflexive moments where my students are able to make that critical border-crossing from picture-making to an awareness of "what observation actually is". This is achieved via a realisation of not so much *what* they are drawing but of *how* they are drawing, and it is the facilitation of such moments of border crossing that constitutes the focus of my teaching. In this article I unpack a set of drawing exercises that help my students develop metacritical awareness of

the *how* and *why* of their drawing processes, thus constructing one of many cognitive scaffolds upon which they can confidently build their drawings in later years.

Drawing as thinking: a history

The concept of drawing as a method of thinking and of thinking through drawing has underpinned my approach to the teaching of drawing for nearly 40 years and it came as no surprise that this relationship between drawing and mental acuity has a well-documented history. Barbara Tversky (2011:500) states that "[t]races of visual communication go far back into prehistory. Indeed, they are one of the earliest signs of culture. They not only precede written language but also served as the basis for it." Ewa Lajer-Burcharth (2017:13) describes how, over the course of the 15th and 16th centuries, drawing acquired a new function and meaning when artists "began to use drawing as a means of thinking through their ideas and as a site of free experimentation and research, rather than only as a narrowly conceived, purpose-driven preparation for a specific work.". She (2017:13-14) continues: "Parallel to this new development was the Renaissance reconceptualization of drawing as an intellectual activity epitomized by the notion of disegno. As Giorgio Vasari conceived of it, disegno, rather than a merely mimetic tool, was the principle of understanding forms." Thus, states Lajer-Burcharth (2017:15), Roger de Piles, the principal theorist and an associate member of the French Academy, "saw drawing as an image of how the painter 'thinks things,'" whilst citing similar claims made by the founder of British connoisseurship, Jonathan Richardson, "who described drawing as 'the mind itself, a quintessence of art'." Despite this lofty claim, the pedagogical import of drawing led to the creation of the first public school of drawing for training young artisans. Founded in 1766 by Jean-Jacques Bachelier as the *École gratuite de dessin*, it established drawing as the basis of public education, a skill in which not only professionals of all trades had to be trained but also marked it as a meta-medium that links *all* trades (Lajer-Burcharth, 2017:22-23).Drawing, argues Lajer-Burcharth (2017:24):

> submitted to a variety of uses – from pedagogy, connoisseurship, and epistemology to art commerce and the manufacture of things – each delineating differently its function and meaning. This double process of unmooring drawing from its circumscribed place in the artist's studio and submitting it to the various disciplines of a wider cultural and social space was precisely what redefined drawing as a modern medium.

Lajer-Burcharth is, of course, writing within the context of the exhibition *Drawing: The Invention of a Modern Medium* held at the Harvard Art Museums in 2017 and provides an example of drawing's modernity by stating that in Degas's hands, "drawing strives not only to emulate but also to *infiltrate* and *dispossess* the other mediums. It materializes a desire to come to terms with the imposition of

photography on the manual modes of representation" (Lajer-Burcharth, 2017:27, emphasis in the original). In the wider curatorial context, states Lajer-Burcharth (2017:28-29 emphasis in the original) "the exhibition treats the basic procedures of drawings not merely as the means but also the *agents* of representation" emphasising "the thinking *inherent* in drawing's materiality and process" found in the empiricist philosophy of John W. Yolton's idea of "thinking matter".

Such inherent agency speaks to the phenomenological, kinaesthetic, and proprioceptive dimensions of the drawing process and it is often from within a cognitive scientific framework that artist-academic research has been undertaken in the last decade. Andrea Kantrowitz (2011) examines the cognitive interactions underlying contemporary artists' drawing practices. Angela Brew (2011) studies the development and changes of rhythm in eye and hand movements, and the role of the pause in drawing. Michelle Fava (2011) considers the educational relevance of contemporary theories of visual attention and cognitive studies of drawing. Their research is conducted in association with The Loughborough University Drawing Research Group, The University of the Arts, London, and the Teachers College, Columbia University, New York, and builds upon the existing research of cognitive neuroscientist Vinod Goel (1995),[1] cognitive psychologist Barbara Tversky (1999 & 2011), philosopher Michael Wheeler (2005), and many others in facilitating enquiry into the ways in which drawing and "presence-at-hand" (Heidegger, as cited in Wheeler, 2005:135) embodies cognitive processes. Deanna Petherbridge (2011:12) quotes Martin Heidegger's notion of *Handlung* – the 'thoughtful hand': "Every motion of the hand in every one of its works carries itself through the element of thinking. … All the work of the hand is rooted in thinking." Petherbridge (2011:12) states that "the thinking hand is also rooted in looking and mediated by phenomenological aspects of embodied response" and it is to this phenomenological and embodied relationship between drawing and thinking that I must now turn.

[1] Goel (1995:6) makes the following statement: "The general worry I have is that as we move … into more open-ended cognitive domains … in the direction of the arts (literature, poetry, painting, music, etc.), cognitive science's ability to explain the relevant cognitive processes approaches zero." To counter this, he proposes Nelson Goodman's analysis of symbol systems as "a better and more complete classification system … which addresses many of the issues/questions to which a theory of representation needs to do justice" (Goel, 1995:155–56). He concludes that Goodman's focus upon notions of density, repleteness, and exemplification "allows Goodman to engage in a sophisticated discussion about relationships among such diverse systems as natural language, diagrams, musical scores, paintings and so on … just the kind of apparatus we could benefit from in cognitive science" (Goel, 1995:157). Such a foundation has done much to liberate conventional Representational and Computational Theories of Mind, enabling recent research into cognitive processes and the arts, especially drawing.

Drawing and embodiment

Juhani Pallasmaa (2009:17), in also evoking Heidegger's direct connection of the hand with the capacity of thought, adds that "[a]ll our senses 'think' and structure our relationship with the world … the sensory and embodied mode of thinking is particularly essential in all artistic phenomena." Pallasmaa (2009:21) takes this further, stating that the hand is not merely a faithful, passive executor of the brain's intentions but also leads the brain as "the hand has its own intentionality, knowledge and skills. The study of the significance of the hand [expands] to the significance of embodiment in human existence and creative work." Such a reading necessitates a need to help my students develop both haptic skills and metacritical knowledge of how the hand matures its 'own intentionality' through my drawing programmes. If Honoré de Balzac (quoted in Maurice Merleau-Ponty, 1964:18) entreats one to consider that "a hand is not simply part of the body, but the expression and continuation of a thought which must be captured and conveyed" as "the real struggle," then it is important to acknowledge that such 'expression and continuation' always works in two directions. This is confirmed by neurologist Frank R. Wilson (1998:276), who states that "the hand speaks to the brain as surely as the brain speaks to the hand", even postulating that the hand plays a role in the emergence of symbolic thought (Wilson, 1998:8).

That the hand can possesses its 'own intentionality' is hidden from my first-year drawing students. Concomitantly, any metacritical knowledge of how the hand/brain relationship might be an embodied one is also hidden from them. To start uncovering these mysteries, my drawing project, strategically positioned in the early weeks of their first-year drawing programme, is designed to help my students grapple with the complex interlocking elements of looking, mark-making, pausing, doubting, erasing, relooking, and redrawing as an iterative cycle. Such a cycle helps bring into being forms that embody the elements of their making. Given that the objects the students are drawing (a brick and a shoe) are to be draw from the 'inside-out', without any visible edgeline, my drawing project embraces doubt, through acts of probing, erasure, and evocation. John Berger (2007:3) seems to describe the embodiment of grappling and doubt when he states how "each confirmation or denial brings you closer to the object, until finally you are, as it were, inside it: the contours you have drawn no longer marking the edge of what you have seen, but the edge of what you have become." Berger foreshadows William Kentridge's (2014a:22) call for the drawing process "making a safe space for uncertainty," and "for giving an impulse, an object, a material, the benefit of the doubt" (Kentridge, 2014a:128).

Angela Brew's research into the cognitive, perceptual, and motor processes involved in learning to draw includes the role of the pause in observational drawing. Citing Merleau-Ponty (1973:47) Brew (2011:67) describes:

> the extraordinary perceptual approach required for observational drawing. The drawer takes time to weave a web between themselves, the object and the evolving drawing. How does the drawer learn to look for the "agile body" of an object? A crucial element of observational drawing is learning to pause. The pause offers a space, temporal and spatial, to reflect and to prepare your next move.

"In other words," states Brew (2011:69), through pausing, "the drawer converts what they see into a plan of how to draw it." When such a plan is successfully implemented, in what Pallasmaa (2009:82) terms a "performance" of "seamless and unconscious collaboration of eye, hand and mind" only then do "perception, action of the hand and thought lose their independence and turn into a singular and subliminally coordinated system of reaction and response." Citing Andy Clark's (2008: xxv) notion of "*thinking* on the paper" Marlene Wasserman (2013:12) suggests that "drawing is in essence the materialisation of the operations of thought, rather than a representation of a pre-specified thought." But before such a drawing utopia can be reached, my first-year students must confront a starting point wracked with indecision and doubt and develop 'a plan of how to draw it'. James Elkins (2000:78) aptly describes such an enterprise as "… something that is worked out in the making, and the work and its maker exchange ideas and change one another. … Thoughts at the moment of beginning are only guideposts, and the actual substance of the work is entirely inchoate."

In his introduction to Mearleau-Ponty's essay *Cezanne's Doubt*, Galen A. Johnson (1996:11) states that "the artist does not 'imitate' nature … [r]ather, what we discover … is a faithful, observant, minutely ordered construction, a fusion of self and nature in which the visible world is re-constructed in its process of appearing to visual sensation." This stress on 'construction' rather than 'imitation' helps my first-year students understand the importance of probing towards the representation of an object rather than its realistic imitation. For many of my students, a metacritical moment arrives. Notions of realism, correctly outlined edges, and fidelity to the surface appearance of an object are replaced with the articulation of haptic and visual sensations. For the first time it seems possible to seek for the relative positions of contours, planes, and masses within a matrix of charcoal dust or vertical pencil lines as a provisional starting point, removed from the imposing blankness of the white page. Alain Badiou (2014: 77) describes this disruption and provisionality:

> But in another and more crucial sense, the paper as a background does not exist, because it is created as such, as an open surface, by the marks. It is that sort of movable reciprocity between existence and nonexistence that constitutes the very essence of drawing.

When I first started teaching, some 40 years ago, I was very taken with Robert Hughes' TV miniseries *The Shock of the New* (Cheshire, Lough, & Pegram), first aired in 1980. In Episode One - *The Mechanical Paradise*, Hughes' dulcet Australian tones reminded me that Cezanne "wants to show the process of seeing, not just the results. And he takes you through this process, you share his hesitations about the positions of a trunk or a branch, or the final shape of a mountain and the trees in front of it." But it was the next section of the narrative that has become a touchstone for all my teaching, and the genesis of my drawing project discussed here. Hughes (1991:18) quotes art critic Barbara Rose's immortal words: "But with Cezanne, the statement: 'This is what I see,' becomes replaced with a question: 'Is this what I see?'" Pallasmaa (2009:92) concludes this by reminding us that "[a] drawing does not reproduce the tree as it manifests itself in the objective reality; the drawing records the way the tree is seen or experienced." By providing a student with the wriggle room to question, accept doubt, pause, and 'work it out in the making', my first-year students are able to make headway into a drawing process that will become a scaffold for many drawings to come.

Drawing the object: an embodied approach

The exercises, which I now unpack, come very early in the first-year drawing programme. In fact, they arrive straight after the first exercise of the year, in which the students locate a basic rectangular shape and three-dimensional forms, upon a flat piece of paper, using visual perspective and measuring processes.

The exercises discussed here start with the drawing of a simple brick in charcoal. In a follow-up drawing, students 'carve away' the volume of a shoe using a putty/kneadable eraser from the charcoal brick which acts as a 'box' in which a shoe snugly rests. The use of charcoal forms a three-fold strategy. Firstly, it establishes the size and dimensions of the shoe to be extracted; secondly, it forms a volumetric template on which different tones are attached to plains: the top of the brick is left white, the long side is drawn the darkest, whilst the front or back plain is toned a mid-grey. Thirdly, the charcoal brick constructs a visual matrix from which the student literally erases the shoe and its volumetric tones. This subtractive 'carving' process obviates the need for initial framing edgelines and encourages the process of discovery and labour in making the shoe appear through the process of "erasure as construction" (Kentridge & Morris, 2014b:5).

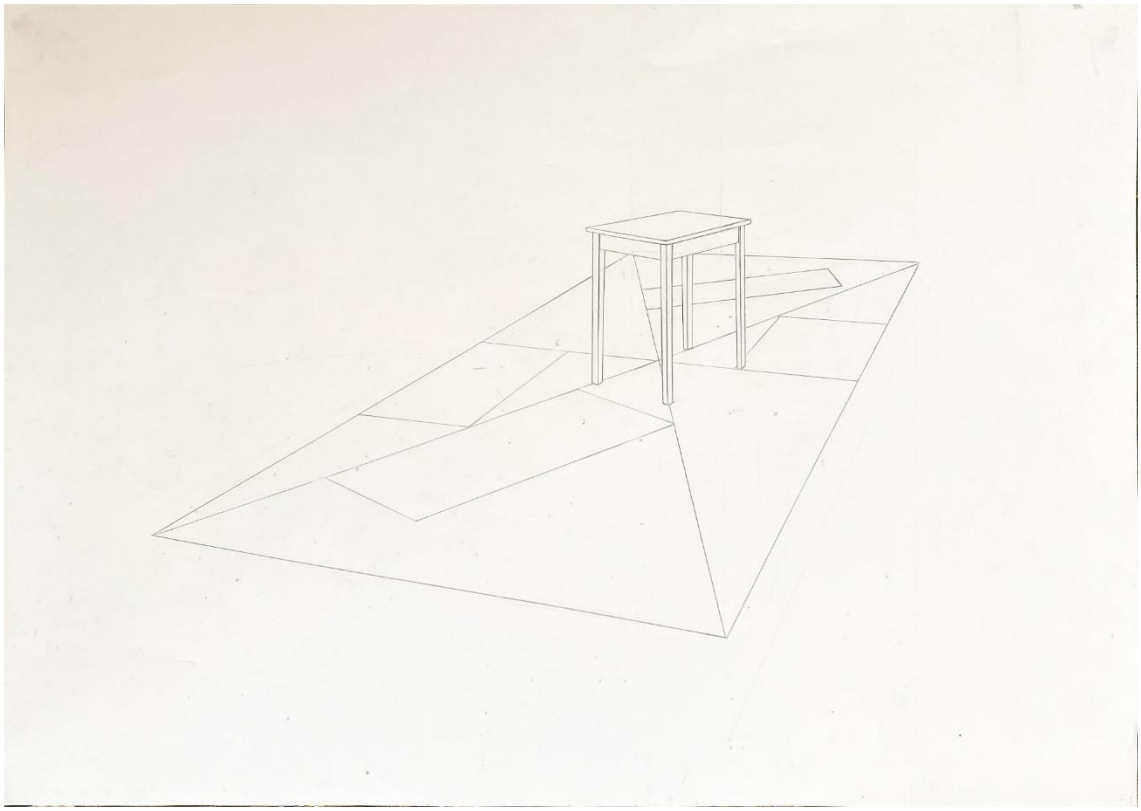

Fig. 2. First drawing exercise in visual perspective and orthogonal judgement

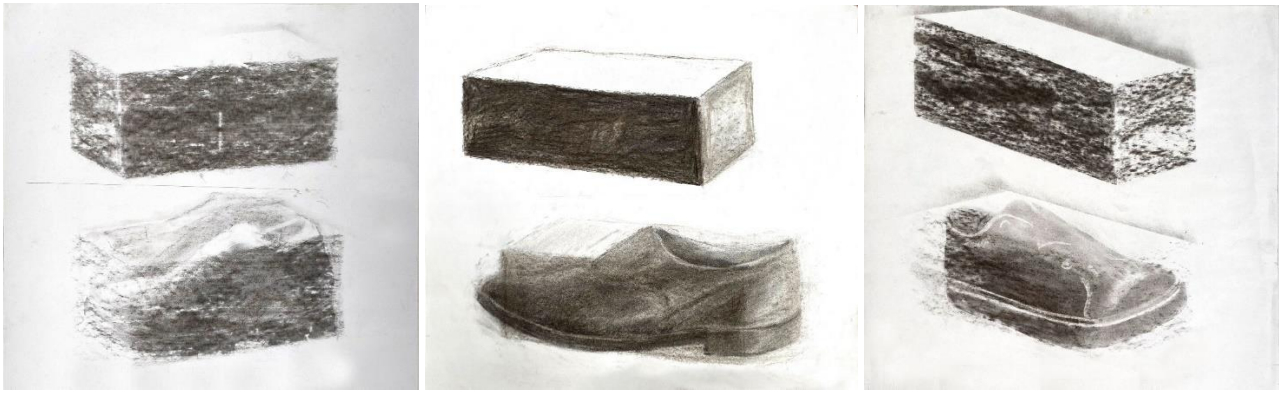

Fig. 3a, b, & c. Charcoal drawing exercises of a simple brick from which the shoe is 'carved'

Doubt and experimentation are built into the construction process and the students appreciate the 'forgiving' nature of charcoal in that, if the shoe seems poorly proportioned, formed, or incorrect, a mere rub of the surface will help return the matrix to its default grey whilst instantly obliterating the faulty attempt with minimal fuss and anguish. Drawing "is a medium in which one can think. … One of the things about charcoal drawing is that it is instantly alterable – you can change it as quickly as you can think. … One wipe … and you can rethink it" (Kentridge, as cited in Maslen & Southern, 2014:200).

I encourage my students to think of their drawings in sculptural terms, in which a 'clay' brick is carved into, releasing the shoe from within. Pallasmaa (2009:18) draws sculptural analogies with the drawings of Henry Moore, who states that the sculptor thinks of the solid shape "as if he were holding it completely enclosed in the hollow of his hand. He mentally visualises a complex form from all round itself; he knows while he looks at one side what the other side is like."

Pallasmaa (2009:92) also provides a second meaning of the word 'drawing' that is to 'pull' or 'extract something', thus "revealing and concretising internal mental images and feelings as much as recording an external world. The hand feels the invisible and formless stimuli, pulls it into the world of space and matter and gives it shape." This second meaning for 'to draw' is picked up by others. Michael Phillipson (2015:12-13) describes such extraction as "an open site of embodiment" a "carrying", or "dragging out of something … to drag-draw." Marc Higgin (2016:3) states how "[d]rawing becomes a kind of drawing-out: not just an understanding of what the world is like from a particular place but an exploration of the possibilities inhering in it." Stuart Reid (2016:2) views this as drawing's "magnetic force" of "connectivity or isolation … we draw into and we draw out these ephemeral aspects."

The second phase of my drawing project builds upon the tentative, searching aspects of the first exercise, but here, the forgiving charcoal surface is replaced by a matrix of vertical pencil lines. What this matrix does is provide a quasi-start to the object-drawing process by disrupting the clean white paper surface. At the same time, this matrix produces a visual 'atmosphere' that can be probed-through or pulled-forward-from. This matrix becomes a productive field in which to locate and draw both the brick and shoe and facilitates, as Johnson (1996:11) has described, "a faithful, observant, minutely ordered construction, a fusion of self and nature in which the visible world is re-constructed in its process of appearing to visual sensation."

Holding the pencil at its end and at arm's length, the student produces a series of vertical neutral grey lines that slowly begin to cover a large enough area to contain the brick with ease. This meditative exercise is important in that it begins a process of relaxation, contemplation, and thinking, prompting the student to question how the brick might be made to appear within this matrix. Using their experience from the first drawing project of the year – in which a shape and its forms are correctly drawn onto a two-dimensional surface – the student situates themselves in such a way as to see the top, side, and front edge of the brick clearly. From this viewpoint, the student is then able to locate the orthogonal lines of the brick's receding edges as they move off into space.

These orthogonal edges are, however, not drawn with a contour or edgeline, but located by means of a set of darker vertical hatched lines that represent the closest side plane of the brick. Hereafter, the closest front plain is located with a set of vertical lines that are toned somewhere between the dark lines of the side plane and the neutral tone of the vertical matrix of lines. As the brick begins to appear within the grey matrix of vertical lines, the student is encouraged to ensure that the drawing replicates the actual dimensions of the brick. The brick must not be too big or too small. The student then locates the furthest point of the brick – again deploying their visual perspective and measuring skills developed in the first drawing exercise of the year – and begins to erase the top plane of the brick to make it the lightest plane. The orthogonals of the top of the brick are made visible by tonal variation, implying an edge as opposed to drawing any edgeline. The students then make adjustments to plane thickness, line tonality, and angles of orthogonals to conjure the illusion of a believable and well-proportioned brick.

Formative assessment now takes place via peer review, in which students are encouraged to speak to those drawings which are most convincing and why they feel so convinced. Students only speak about failures and areas that are unconvincing and unresolved in their own drawings, setting out strategies for improvement, with some students deciding to start the drawing afresh.

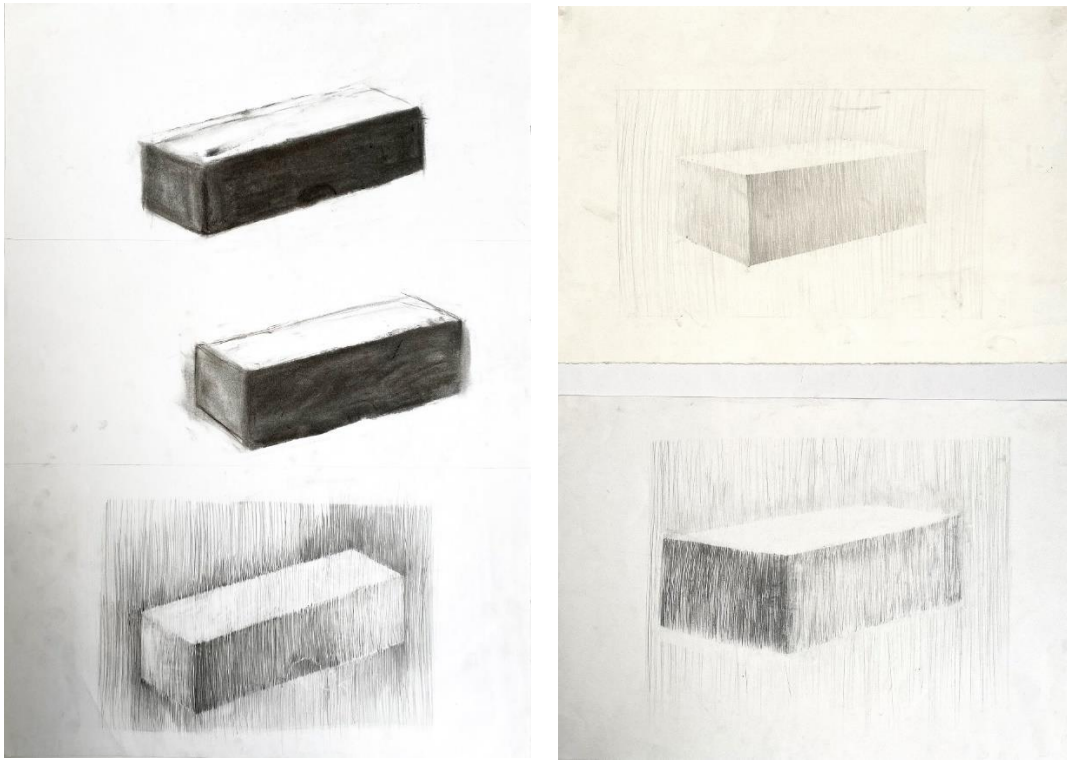

Fig. 4a & b. Evoking the illusion of the brick from the matrix of vertical pencil lines

From this mid-point in the drawing, the relationship of tonal value to advancing and receding plains is nuanced. The closest edge of the brick to the student is drawn up – still using crisp vertical lines – with the greatest degree of tonal variation occurring between the closest edge of the brick's side plane and its corresponding point on the top plane. As the side and front planes recede, so the density of mark-making and its associated tonal variation is tempered with softer haptic pressure and subtle erasure using the kneadable eraser.

As the brick begins to appear more convincingly, however, the role of the original matrix of neutrally toned lines now appears more agentic than first thought. The darker, closest plane of the brick must not only be tonally contrasted with its top white plane but with the spatial 'atmosphere' upon which the brick now appears to rest. This area of the matrix must also be erased into, like a pool of light below the brick's closest edges, and 'zipped' slowly back into the tonal matrix, allowing the brick to illusionistically move out from and into space. Finally, as the white top plane recedes towards the far edge of the brick, the tonal variation between white plane and neutral grey matrix also requires nuancing. In an attempt to push the brick into space, tonal variation must be tempered. This is achieved by lightly returning the neutral matrix lines over the far white edge of the brick, thus producing an area of least tonal variation coupled with a softness of edge. This phrasing contrasts with the crisp and more tonally varied mark-making in the areas of the brick closest to the student. The students are encouraged to spend ample time on erasing and redrawing until the brick looms convincingly within the matrix. Such phrasing has now revealed itself as an indispensable strategy for thinking a form into being without having to resort to ubiquitous and flattening edgelines, and in so doing, "take mental responsibility for what is drawn" (the author, cited in Hobbs, 2014:82).

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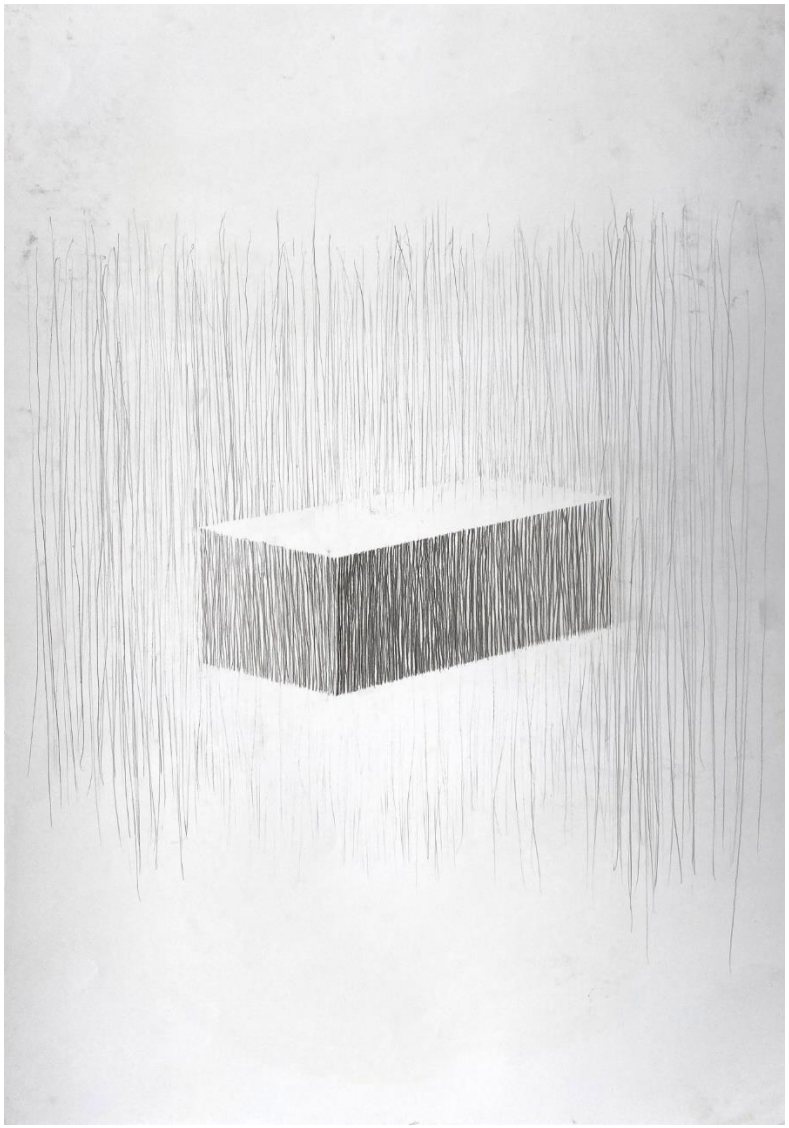

Fig. 5. A final drawing of a brick evoked from the matrix of pencil lines

In the third phase of the drawing exercise, the brick is replaced with a shoe. The students start again with a carefully drawn matrix of vertical lines, covering an area large enough to accommodate their life-size shoe comfortably. All elements of the previous exercise remain. It is critical to view the shoe so that its top, side, and front/back are visible, with their orthogonal lines clearly moving off into space. It makes no sense to view the object from front or side-on as the third plane will not be able to be observed and drawn, thus defeating the volumetric imperatives of the exercise. No visible edgelines are allowed; only dots and glyphs, marking strategic locations of the shoe, can be positioned in the matrix. Dark, light, and white tones must be consistently attached to their allocated planes so that the volumetric presence of the shoe is drawn, not a picture or illustration of it. All the shoe's details such as stitching, texture, surface patterns, and eyeholes are irrelevant for the purposes of this exercise, and I often paint the shoes white to help neutralise all the seductive details that might derail students and shift their focus. I also warn students that any shadows found

in the shoe must be ignored, and to remember, instead, that dark marks must be reserved for their appropriate plains. These ubiquitous and much-loved dark moments found in many of the students' entrance assessment portfolio drawings are merely decorative, graphic conceits that are to be avoided at all costs. Thus begins the final phase of the exercise of drawing out described by Higgin (2016:3) as the "exploration of the possibilities" and by Reid (2016:2) as the seeking out of "ephemeral aspects" of the objective world. Confronted with an object more organic and complex than a brick it seems more difficult to know where to start, evoking Badiou's (2014:77) apt observation that "[t]he question of drawing is very different from the question of Hamlet. It is not 'to be or not to be', it is 'to be and not to be'… not a clear alternative … but an obscure and paradoxical conjunction." It is at this point that I remind my students that the only thing of which they can be certain is their own doubt and constant questioning, or as Kentridge (2014b:2) describes: "It makes of ambiguity and plurality a virtue."

The resulting shoes are brought into being through a contemplative process in which Barbara Rose's question, 'Is this what I see?' is actioned and answered through nuanced mark-making and erasure. Not only must the shoe be drawn from a set of crisp vertical hatches upon, and erasures into, the existing matrix of longer neutral grey lines, but the student must, at all stages of the drawing, also assess the appropriateness of their marks' resulting tonal density or lightness. The students' phrasing becomes more complex as the folds and structure of the shoe's surface change planes from top (white) to side (dark) to front/back (grey), transforming their cold, crisp hatches into a more nuanced and responsive 'skin', in what Johnson (1996:11) has earlier described as "a faithful, observant, minutely ordered construction."

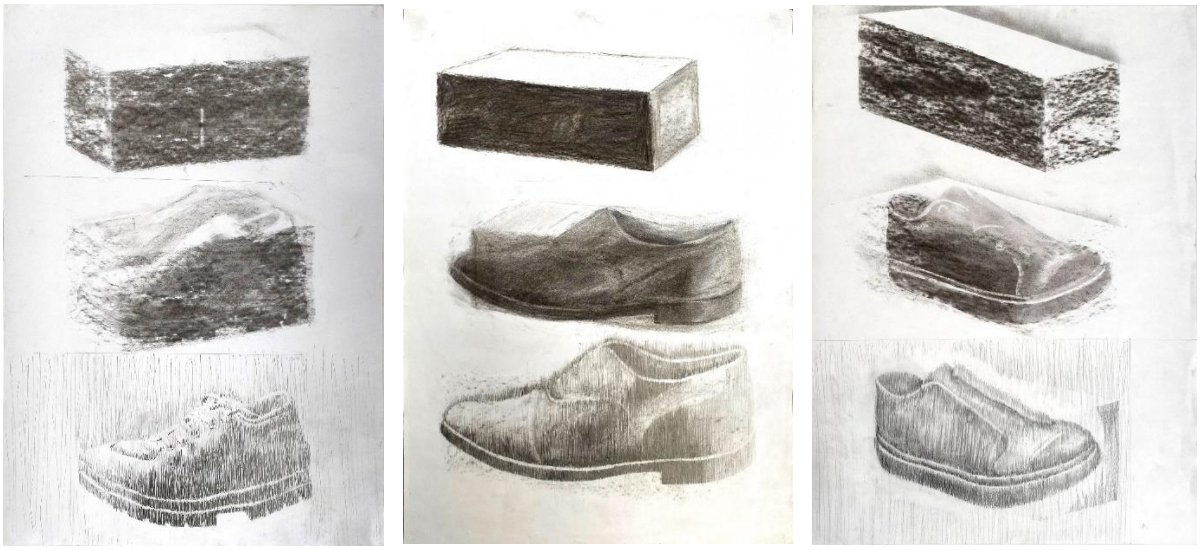

Fig. 6a, b, & c. Final iterations of the shoes (bottom), extracted from a matrix of pencil lines

Conclusion

For me to gain insights into what my students were experiencing during these drawing exercises, I conducted a 23-question survey based upon some of the assumptions and claims I have made in this article (see Table 1). In 2022 I questioned nine volunteers, and in 2024 I questioned the majority of the first-year class (27 respondents). In 2022, an overwhelming 79.8% of responses were positive about their metacritical learning (agreed – 38.38%; strongly agreed – 41.41%), while only 3.54% of the responses were negative. 16.67% of responses were neutral. The wider reach of the 2024 survey found that 72.9% of respondents were positive about their learning experience (agreed – 36.87; strongly agreed – 36.03%) while slightly more students felt negatively about their learning experience than in 2022 (7.07%), with 20.03% of students being neutral in their responses.[2]

At this early stage of their drawing careers, it is difficult for first-year students to absorb all the metacritical moments that these exercises offer. Such is the newness of these approaches to drawing that it is sometimes difficult for me to convince my students to ring-fence their dependence upon surface appearance, shadow, outline, pattern, and decorative detail – what Nathan Goldstein (1977:306) identifies as leading to "pathologies of drawing" – by putting their trust in a new set of strategies for grappling with volumes and forms via their experience of them. This set of drawing exercises is designed to open up a range of border-crossing experiences for my students, not least of which is a realisation that the hand is not merely a passive executor of the brain's intentions but possesses its own intentionality, knowledge, and skills, as Pallasmaa (2009:21) reiterates. It is incumbent upon each student to begin to trust that the evocation of clarity, weight and density and their opposites; inference, suggestion, and loss, are dependent on their own idiosyncratic hand movement's directionality and haptic sensitivity to pressure and release. I remind my students that their developing haptic skills align with those of a surgeon, a notion that is supported by Jenny Wright of the University of the Arts, London and Neil Shah of St. Bartholomew's Hospital, London (2011:110), who acknowledge "the physical links between the act of making a drawing and performing surgery."

[2] The slight drop in the 2024 group's reported positive experiences of the drawing exercises was expected, given the larger (and therefore more accurate) sample size, and the fact that (the 2022) volunteers were more likely to report on the positive aspects of their experience. However, there are other possible factors that could be noted when accounting for this slight drop. The quality of the 2022 student intake far exceeded that of the 2024 intake, based upon the global entrance examination results. In 2022 the average for the group's entrance assessments was 66%, with nine candidates achieving 70% or above and six achieving a distinction application score. By contrast, the 2024 class achieved an average of 58.8%, with no applicants achieving an entrance assessment mark higher than 69%. Given these scenarios, the 2024 results are extremely pleasing and reflect positively on the teaching aims and attempted 'border crossings' embedded in the first-year Drawing programme.

COMPARISON: 1st Year Questionnaire: Learnings and Experiences in the Brick-Shoe Drawing Exercises
Instructions: Read the statements below and indicate if you agree or disagree with the statement as they relate to your experience of the various brick-shoe drawing exercises.

0 = strongly disagree with the statement
1 = disagree with the statement
2 = a neutral response to the statement
3 = agree with the statement
4 = strongly agree with the statement

		2022						2024					
		0	1	2	3	4	Total	0	1	2	3	4	Total
1	The various Brick-Shoe exercises helped me understand the concept of 'drawing as thinking'			1	5	3	9		2	8	9	8	27
2	The exercises facilitated moments where I was able to make critical border-crossings from the idea of 'making-a-picture' of something to a realization of how I am constructing a drawing				6	3	9		1	9	9	8	27
3	Through these exercises I became aware of my own metacritical thinking (i.e. an awareness of the how and why of my drawing processes)			3	5	1	9			4	13	10	27
4	This set of exercises helped build a confident foundation and scaffold for the more challenging drawings to come		1	1	3	4	9		1	7	9	10	27
5	Doubt is built into these exercises as constructive rather than destructive strategies for drawing			3	1	5	9	2	1	3	11	10	27
6	I appreciate the 'forgiving' nature of charcoal in that, if my shoe seemed poorly proportioned, formed or incorrect, a mere rub of the surface helped return the matrix to its default grey whilst instantly obliterating the faulty attempt with minimal fuss and anguish			1	2	6	9	1	1	8	8	9	27
7	Drawing the matrix of pencil lines is a meditative exercise that gives me time to question how the brick might be made to appear within this matrix	1		3	3	2	9		3	7	8	9	27
8	I spend time on phrasing (erasing and redrawing until the brick loomed convincingly within the matrix). Such phrasing was an indispensable strategy for thinking a form into being without having to resort to pattern, shadows and outlines		1	1	1	6	9			3	16	8	27
9	These exercises helped me take mental responsibility for what I drew .				2	3	4	9		2	2	11	12	27
10	Confronted with a shoe (which is more organic and complex than a brick) it seemed more difficult to know where to start		1		1	7	9	1	4	2	7	13	27
11	I found that the phrase "When drawing, the only thing of which you can be certain is your own doubt and constant questioning" is true and helpful in my experience of drawing the		1	1	3	4	9	1	2	3	10	11	27
12	The resulting shoes were brought into being through a contemplative process in which the question, 'Is this what I see?' is answered through nuanced mark-making, erasure and			2	4	3	9			4	10	13	27
13	Galen Johnson describes such drawing as "a faithful, observant, minutely ordered construction." Does this phrase describe your attempt at drawing the shoe?		1	3	3	2	9		3	9	12	3	27
14	These approaches to drawing were new to me and I worried that my drawings 'don't look like' the shoe I have spent so much time and energy drawing				5	4	9			5	12	10	27
15	It was difficult for me to separate from my dependence upon surface appearances: shape, shadow, outline, pattern and decorative detail and put my trust in a new set of strategies for depicting volumes and forms via my experience of them			1	4	4	9		2	5	12	8	27
16	I realized that the hand is not merely a passive executor of the brain's intentions but possesses its own intentionality, knowledge and skills			3	3	3	9		3	7	6	11	27
17	density and their opposites; inference, suggestion and loss, depends on my understanding of my hand movement's directionality, haptic sensitivity to pressure and release, i.e. being aware of how I draw				4	5	9		1	8	8	10	27
18	The idea that my developing haptic skills align with those of a surgeon when conducting an intricate operation is a concept that now makes sense to me	1		2	3	3	9	1	1	5	8	12	27
19	Through these exercises, I have become more aware of my body's proprioceptive relationship with my drawn surfaces, materials and the space around my drawing			2	5	2	9		3	5	8	11	27
20	Such mindfulness helps me develop a metacritical awareness of not only how I am drawing but why I am drawing in the manner that I am			1	5	3	9		3	7	12	5	27
21	After completing these exercises, I now draw with greater understanding			1	3	5	9		2	4	9	12	27
22	After completing these exercises, I now draw with greater technical skill.			2	4	3	9		1	4	11	11	27
	Extra Question not included in final results as a 0 indicates strong confidence												
23	It is difficult for me, as a 1st year student at this early stage of my drawing career, to absorb all the metacritical moments that these exercises offer	1	1	2	2	3	9	1	6	9	7	4	27
	total	2	5	33	76	82	198	6	36	119	219	214	594

2022				2024				combined	ave
0	2	1.01%		0	6	1.01%			
1	5	2.53%	3.54%	1	36	6.06%	7.07%	10.61%	5.30%
2	33	16.67%	16.67%	2	119	20.03%	20.03%	36.70%	18.35%
3	76	38.38%		3	219	36.87%			
4	82	41.41%	79.80%	4	214	36.03%	72.90%	152.69%	76.35%
	198	100.00%	100.00%		594	100.00%	100.00%		

Table 1: Student responses to 23 claims made in the article about their learning experiences during the brick/shoe drawing exercises in 2022 and 2024. Across the two years of the survey an overwhelming 76% of responses were positive while only 5% of responses were negative. 18% of responses were neutral.

Over the two years of the survey, the results demonstrate that a pleasing 76.35% of my students are positive about the challenges that these new approaches to looking, thinking, and drawing encourage. Of particular note is that not a single student, across either year, responded negatively to the following three statements:

- Through these exercises I became aware of my own metacritical thinking (i.e., an awareness of the 'how' and 'why' of my drawing processes)
- The resulting shoes were brought into being through a contemplative process in which the question 'Is this what I see?' is answered through nuanced mark-making, erasure, and redrawing
- These approaches to drawing were new to me and I worried that my drawings 'don't look like' the shoe I have spent so much time and energy drawing.

Through these exercises, and the more challenging ones that follow, my students have become aware of the haptic sensitivities, intentionality, and knowledge residing in their hands. Their bodies have also become more attuned to proprioceptive relationships with the drawn surface and the space around their drawing. Such mindfulness helps a student develop metacritical awareness, not only of how they are drawing but also of why they are drawing in the manner they are.

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