Fostering Curiosity and Risk in the study of Materials and Technology for Architecture
Architectural qualification in the UK comprises three parts: undergraduate, and postgraduate degrees prescribed by the Architect’s Registration Board (ARB) and validated by the Royal Institute of British Architects (RIBA), and completion of a practice-based period of study.

A clear mandate is set by the RIBA: design must constitute at least 50% of the degree programme; yet what constitutes design remains unclear.
undergraduate material practice: professional competencies, and confidence in authorship
postgraduate teaching: individualism and insight

Toby Blackman
Research-Informed Discourse
Professional competencies in material and technical terms

Integrated data-rich modelling: surrogate and simulation

Description: from heuristic pursuit to specification
The epistemology of architectural practice formed is founded on the principle that architecture requires an ‘integrated design’ practice in which technical issues from the fields of structural engineering, construction, and environmental design inform the development of the architectural project.
Making, and challenging the status of the model, becomes a primary mode of design enquiry.
Making, and challenging the status of the model, becomes a primary mode of design enquiry.

Making exists for Architects as an activity at the interstices between material parameters, and the potential of ideas.
Making, and challenging the status of the model, becomes a primary mode of design enquiry.

Making exists for Architects as an activity at the interstices between material parameters, and the potential of ideas.

Making demands that you learn from it, that you learn craft, purpose, logic, technique, and respect, and it is therefore an essential activity for the designer.
models . archetypes . prototypes
Architecture.
**Model**
A representation of the architecture.
[either developmental or summary, the Model represents the holistic proposition]

**Archetype**
A physical benchmark, or an existing reference point.
[a Benchmark may establish achieved work, fit, and finish of building elements, or techniques]

**Prototype**
A preliminary construction from which rules and processes maybe derived, or which may revise design decisions.
A prototype informs subsequent constructions.
The Integrated Studio encouraged *making* as a primary mode of enquiry, and considered the immediate access to the material currency of architecture to be invaluable to our students.
Initial testing was conducted using a matchbox pinhole camera, the same principle was then applied to the brick camera.

Rory Wood
In contra-distinction to adjacent Design Studio Units, the individual’s knowledge, understanding and skill was tested in the medium of design: material practice.

Knowledge, skill and control in material arrangement and the creation of controlled, spatial phenomena was required, to be delivered with material and structural sympathy (in terms of quantitative capacities and limits).
The opportunities created are for the cross-fertilisation of study, concepts and methodologies between the Design Studio and the lecture-based study periphery.
Clockwise from top right: Matthew Skelding, Emily Cotgrove, Bethany Rawsthorne [2], Y2 Spring Tectonics
Designing in and for the Medium
representation
[of and for structured space]
material matters
[material quantities and specifics]
creative practice
[material processes and potential]
Balancing design capacities and professional competencies
Representation
Fostering Curiosity and Risk in the study of Materials and Technology for Architecture

Left to Right: Ryan Boultbee, U5A 1617, Emily Cowles, U4A 1617

Toby Blackman
Material Matters
SURFACE COATING EXPERIMENTATION

STEEL, GALVANIZED/RESIST TO TRASH:
1. Similar blue painted steel.
2. Painted on a steel base.
3. Half frame spray.
4. Painted on a steel base.
5. Close-up shot of a steel base.
6. Painted on a steel base.
7. Surface of a steel base.
8. Close-up shot of a steel base.

THE LAND OF TRUTH:
I was part of the first to lay the principles, as outlined in the Stewart Laws of Polarity, material balance.

Building Description:
1. A showcase of the materials mentioned in the previous text.
2. A showcase of the materials mentioned in the previous text.
3. A showcase of the materials mentioned in the previous text.

Coating Experimentation:
1. A showcase of the materials mentioned in the previous text.
2. A showcase of the materials mentioned in the previous text.
3. A showcase of the materials mentioned in the previous text.

MATERIAL LANGUAGE:
Through material quality, I have become attuned to the way of the timber. However, this treatment was carried out on the most successful specimen, with the timber used on the test piece. To test the durability of the material, it was subjected to various conditions, including wetting, drying, and temperature changes. The final test was to determine the material's resistance to weathering, as well as its ability to resist decay.

Surface treatment:
1. A showcase of the materials mentioned in the previous text.
2. A showcase of the materials mentioned in the previous text.
3. A showcase of the materials mentioned in the previous text.

Steel and Timber:
The painting of the specimens, as well as the test pieces, was carried out using the timber. This test was performed to determine the material's performance under various conditions, including wetting, drying, and temperature changes. The final test was to determine the material's resistance to weathering, as well as its ability to resist decay.

Surface language:
1. A showcase of the materials mentioned in the previous text.
2. A showcase of the materials mentioned in the previous text.
3. A showcase of the materials mentioned in the previous text.

Steel and Timber:
The painting of the specimens, as well as the test pieces, was carried out using the timber. This test was performed to determine the material's performance under various conditions, including wetting, drying, and temperature changes. The final test was to determine the material's resistance to weathering, as well as its ability to resist decay.

Surface treatment:
1. A showcase of the materials mentioned in the previous text.
2. A showcase of the materials mentioned in the previous text.
3. A showcase of the materials mentioned in the previous text.

Steel and Timber:
The painting of the specimens, as well as the test pieces, was carried out using the timber. This test was performed to determine the material's performance under various conditions, including wetting, drying, and temperature changes. The final test was to determine the material's resistance to weathering, as well as its ability to resist decay.

Surface language:
1. A showcase of the materials mentioned in the previous text.
2. A showcase of the materials mentioned in the previous text.
3. A showcase of the materials mentioned in the previous text.

Steel and Timber:
The painting of the specimens, as well as the test pieces, was carried out using the timber. This test was performed to determine the material's performance under various conditions, including wetting, drying, and temperature changes. The final test was to determine the material's resistance to weathering, as well as its ability to resist decay.

Surface treatment:
1. A showcase of the materials mentioned in the previous text.
2. A showcase of the materials mentioned in the previous text.
3. A showcase of the materials mentioned in the previous text.

Steel and Timber:
The painting of the specimens, as well as the test pieces, was carried out using the timber. This test was performed to determine the material's performance under various conditions, including wetting, drying, and temperature changes. The final test was to determine the material's resistance to weathering, as well as its ability to resist decay.

Surface language:
1. A showcase of the materials mentioned in the previous text.
2. A showcase of the materials mentioned in the previous text.
3. A showcase of the materials mentioned in the previous text.

Steel and Timber:
The painting of the specimens, as well as the test pieces, was carried out using the timber. This test was performed to determine the material's performance under various conditions, including wetting, drying, and temperature changes. The final test was to determine the material's resistance to weathering, as well as its ability to resist decay.

Surface treatment:
1. A showcase of the materials mentioned in the previous text.
2. A showcase of the materials mentioned in the previous text.
3. A showcase of the materials mentioned in the previous text.

Steel and Timber:
The painting of the specimens, as well as the test pieces, was carried out using the timber. This test was performed to determine the material's performance under various conditions, including wetting, drying, and temperature changes. The final test was to determine the material's resistance to weathering, as well as its ability to resist decay.

Surface language:
1. A showcase of the materials mentioned in the previous text.
2. A showcase of the materials mentioned in the previous text.
3. A showcase of the materials mentioned in the previous text.

Steel and Timber:
The painting of the specimens, as well as the test pieces, was carried out using the timber. This test was performed to determine the material's performance under various conditions, including wetting, drying, and temperature changes. The final test was to determine the material's resistance to weathering, as well as its ability to resist decay.
MATERIALITY

THEMATIC STATEMENT

In our present days we are bombed by images and sounds, and so we are forced to lower the threshold of our attention in order to ‘survive’. We end up in a condition of passive acceptance and our creative and interpretative dimension is knocked down. It is important then, to regain a critical attitude in the image consumption, to look at things critically and to wake up the latent childlike curiosity that is hidden in everyone, actively experiencing things.

Maison de Plasticine would offer to re-establish a physical connection with the material: children with their playful hands-on approach, and professionals in experimenting techniques, rediscovering the analogue approach, physicality and craftsmanship of animation, which then, would blend with digital in something unique, aiming to express the qualities of materials and the passion to the audience.

Plasticine is a tactile, malleable material. It lets children express their creativity and imagination, and it is widely used in animation with the stop motion technique. Its qualities are interesting. The way in which it reveals how it has been handled, stores warmth, exposes the human touch of finger prints or tools used on its surface, is fascinating.

I want to explore materials and finishes which disclose the direct, physical experience of working with the ‘hands’, which are result of an analogue process. The architecture of Maison de Plasticine should express on its surfaces the story of the material, the finish and its process, and offer a spatial and haptic experience. The architecture should seek tactility, warmth and sincerity.

I tried to finish a piece of plaster by applying thin layers of plaster with a trowel. I then polished it with sand paper and burnished it. This piece try to express the process of finishing it, conveying that quality of things made by hand.
Lino Cut concrete casting, Rallou and Foteini
Brick

I wish to accentuate the horizontality of my scheme. This can be achieved through understanding and choosing the right bricks and detailing that accompanies this. Therefore making the right decisions is crucial.

**Thermal Resistance**

1 / 1.01

-0.74626/W/m

<table>
<thead>
<tr>
<th>Standard</th>
<th>Norwegian</th>
<th>Ambassador</th>
</tr>
</thead>
<tbody>
<tr>
<td>65 x 100 x 250</td>
<td>75 x 100 x 250</td>
<td>75 x 100 x 250</td>
</tr>
</tbody>
</table>

**Bond**

The bond is another crucial element to which creates a well-developed and detailed facade. Understanding the priority at which I am focusing on is pivotal to informing the right decision. In this exercise, it is creating a sense of horizontality in my facade.

I chose the stack bond based on research, explorations and understanding. Placing bricks in say of each other begins to create a sense of horizontality but without the right mortar detailing the effect needed will be unnoticeable.

Although these bricks do not share the same type of dimensions as the bricks at which I wish to use, they offer an insight into the effect the bond has upon the aesthetics. I wish to further explore this with the brick and mortar type I wish to use.

**Mortar**

The choice of mortar specifications is a detail which can compliment and add to the facade of a scheme. To accentuate the horizontality of a facade one would be struck or raised on the horizontal whilst the verticals would be flush.

This leaves alone one detail example of this method that I wish to implement in my facade design. Frank Lloyd Wright stated that the “... Horizontal joints with sand white, vertical joints narrow and culured to match bricks. Horizontal joints raked out as approved.”

By raking the horizontal mortar, the joints created a shadow which accentuates this detail and creates a sense of horizontality. Using a brick colour mortar on the verticals alongside the raked joints and accented this detail. I wish to explore this in the made form to create a more realistic facade study as opposed to my bond studies.

Adam Stacey
Fostering Curiosity and Risk in the study of Materials and Technology for Architecture

Creative Practice
Fostering Curiosity and Risk in the study of Materials and Technology for Architecture

Clockwise from top left: Alt Formwork; Laser Cut Steel; Lino-Cut/Metal Hybrid Formwork; Delicacy: Fabric Ravioli.
Approaching the **visual and technical questions of material** arrangement from first principles [water dispersal, the provision of insulation, air movement, durability], **observation and experience**, students are encouraged to prepare draft work to facilitate tutorial **discourse and reflection**.
Fostering Curiosity and Risk in the study of Materials and Technology for Architecture

Chloë Thirkell U4B 1314

Toby Blackman
Fostering Curiosity and Risk in the study of Materials and Technology for Architecture

Chloë Thirkell U4B 1314
Consider the paint.

Concrete / timber / stone...

1/2 of a brick at a time.

This is a concept:
Support butt-to-butt at the level of the wall.

Trunking:
1. Primary structure
2. Insulation
3. Protection

Patterns of abuts to trim / frame

Ladder

Light lines / clean join.

Consider the paint.

This drawing shows less detail, perhaps omit fixing.
Fostering Curiosity and Risk in the study of Materials and Technology for Architecture

# CONSISTENT

- Check on whether or not this is an open jointed zinc rainscreen or a closed, sealed weather layer.
- Technically, it could be either, but what do you want to either?

THIS IS A GREAT SECTION, BUT REINFORCE ITS STRENGTH BY:

THINK ABOUT

SETTING UP A

CONSISTENT

TACTICAL GUIDO:
1. PRIMARY STRUCTURE
2. INSULATION
3. PROTECTION

VENTURE LINES,
 BUT USE ONE DETAIL ON BRACKETS,
 BAILS, ETC. THE
 MATERIAL LINES
 WHEN STRONGER
 OF PVC.

DRILL THE HOLEST
Fostering Curiosity and Risk in the study of Materials and Technology for Architecture

Case Study: Stanley Commons, Alec Crisp.

Stanley Docks, Liverpool

Toby Blackman
Successful negotiation of an authorial intent through the phases of conception, representation, simulation and prototyping, and construction processes is difficult.

The endeavour rewards curiosity in each phase, and risk-taking in terms of the propositional and the prototypical.
Fostering Curiosity and Risk in the study of Materials and Technology for Architecture

Dante Hall and Alec Crisp

Toby Blackman
Alec Crisp, U5A 1516
Representation
[of and for structured space]

speculative ideas for spatial design
Fostering Curiosity and Risk in the study of Materials and Technology for Architecture

Alec Crisp, U5A 1516
Material Matters
[material quantities and specifics]
prototyping and the derivation of rules
Fostering Curiosity and Risk in the study of Materials and Technology for Architecture

Alec Crisp, USA 1516
Fostering Curiosity and Risk in the study of Materials and Technology for Architecture

Alec Crisp, U5A 1516
Creative Practice
[material processes and potential]

an informed authorial intent, designing in and for the medium
Fostering Curiosity and Risk in the study of Materials and Technology for Architecture

Alec Crisp, U5A 1516

Toby Blackman
Fostering Curiosity and Risk in the study of Materials and Technology for Architecture

Alec Crisp, U5A 1516
Fostering Curiosity and Risk in the study of Materials and Technology for Architecture

Alec Crisp, U5A 1516
Conclusions
Collectively, the student projects represent the development of symbiotic material practice and spatial design competencies, located in the Design Studio.
Collectively, the student projects represent the development of symbiotic material practice and spatial design competencies, located in the Design Studio.

The work lies situated in the field of study whilst operating across the scales of the urban and the architectural, synthesising knowledge and understanding in spatial design, construction, history and theory, practice and management.
Collectively, the student projects represent the development of symbiotic material practice and spatial design competencies, located in the Design Studio.

The work lies situated in the field of study whilst operating across the scales of the urban and the architectural, synthesising knowledge and understanding in spatial design, construction, history and theory, practice and management.

Assessment rewarded the development and demonstration of design both in, and for the medium, as an integrated practice operating in the interstices of architectural mimesis and praxis.
Collectively, the student projects represent the development of symbiotic material practice and spatial design competencies, located in the Design Studio.

The work lies situated in the field of study whilst operating across the scales of the urban and the architectural, synthesising knowledge and understanding in spatial design, construction, history and theory, practice and management.

Assessment rewarded the development and demonstration of design both in, and for the medium, as an integrated practice operating in the interstices of architectural mimesis and praxis.

The students excelled and generated speculative ideas for spatial design in the currency of structured, culturally resonant, delightful, performative material, which it is argued, is the remit of architectural practice in the field of STEM.
Fostering Curiosity and Risk in the study of Materials and Technology for Architecture

Alec Crisp, U5A 1516

Toby Blackman
thank you