SEVENTY-TWO ASSIGNMENTS
THE FOUNDATION COURSE IN ART AND DESIGN TODAY

EDITED BY CHLOE BRIGGS

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THE HUMAN FAX MACHINE EXPERIMENT
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AUSTRALIA

"The Human Fax Machine Experiment" requires participants to invent their own code-based communication systems. This assignment introduces aspects of the mindset of programming without using computers—and without any literal reference to programming code. No prior experience at code making or breaking is required.

Participants are posed a conceptual problem: they must collaborate to invent a system for transmitting an image across a visual barrier using only the medium of sound. Spoken language is not permitted. The students must work with only the simplest sound effects (rattling a jar full of seeds, scratching a metal plate, hitting two stones together). The assignment's importance lies in the requirement to generate a new language which is functional (i.e., it should actually work to communicate a basic "message") and also scalable (ideally, the language which is developed could also be used to transmit a much more complex image-message). This requires not only the exercise of the analogy-making mind ("What solutions have I come across in the past that I could apply to this situation?") but also the pragmatic mind ("My solution might work, but is it the most efficient available?").

MATERIALS AND EQUIPMENT

For a group of fifteen students:

- A room—an ordinary classroom size is fine. For a group of fifteen, two rooms would be ideal.
- Some way of making a visual barrier—for example, a desk turned on its side, or a vertical partition, or a sheet hanging from the ceiling. Two or three such barriers are required.
- Approximately 100 large sheets of paper. This do not need to be high-quality paper.
- A variety of different coloured thick marker pens—probably twelve or so is sufficient.
- A variety of simple sound-making devices. Four of these would be enough. For example:
  - A glass jar with a few coins inside
  - Two wooden spoons
  - Two river stones
  - A bunch of keys
- A range of rudimentary line drawings for sample transmission. These can be created by the assignment facilitator.
- Digital cameras and video cameras for documenting the process and the codes created.

INSTRUCTIONS

1. Break the class into small groups of between four and six participants. Each group gets one unsophisticated sound-making device (a spoon and glass, or a bell, or a jar with dried chickpeas, etc.). The group begins by developing its code system. In practice, this part of the experiment is the most difficult, and can take quite a long time. The group sits together with paper, pens, and their sound-making device. Through the process of discussion and trial and error, participants develop and document a "lexicon" of sounds. What graphic marks could these sounds be used to communicate?

2. Having developed the first draft of a code system, each group now splits into two sub-teams: the "Encoders," who will transmit the image-message, and the "Decoders," who will receive it. The group should write down the code in duplicate, so that both the Encoders and the Decoders have a working copy of it.

3. The Encoders and the Decoders now sit on opposite sides of a visual barrier in such a way that the two sub-teams cannot see each other. Test the system out with a graphic image—a simple line drawing. Once the teams have completed the transmission, it's time to refine the code by considering the following questions:

- Is the code appropriate for the sound-making device provided?
- Can it transmit diagonal lines, curves, organic shapes, etc.?
- What doesn't work?
- What if the Encoders make a mistake when transmitting?
- What if the Decoders make a mistake when receiving?
- What if the group needs to clarify, pause, or start over?
- How does the group deal with "noise" in the system?

There is no need to agonise about making it perfect. If it seems basically workable, go with the system in a provisional manner. Participants will refine the code through successive iterations.

4. Now, a challenge. The team will be allocated an image it has never seen before. The Encoders will be handed the

image, but the Decoders must not see it. The Encoders sit on one side of the visual barrier, and the Decoders sit on the other side. The two cannot see each other. Nobody is permitted to speak.
The Encoders use their sound-making device to transmit the encoded image. On the other side of the partition, the Decoders listen carefully and decipher the sound. The Decoders now draw the image according to the established code.
Once the transmission is complete, the team gets together, discusses what went wrong, improves the code system, and carries out a second transmission using a different image. This iterative improvement process continues with further refinements and progressively more complex images.

5. Reconvene with all the participants and discuss:
- What species of code systems each group devised
- What processes the groups explored to arrive at their systems
- How successful the systems were at approximating the original image
- What was learned in the process
- What was frustrating or enjoyable about the process

The experiment is fundamentally social: solutions emerge from what makes sense within the small group itself, and depend on the ability to work together. Code systems that students invent will thus necessarily involve poetic idiosyncrasies and artful flourishes which effectively model the development of human culture on a small scale.

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PHOTOS CREDITS

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