



Fig. 1—Jan S. Pettersson, *The True Lasse* (selected edition). Photogravure with RGB exposure and print with 3 differently exposed and etched copperplates. Court. Pettersson.

After having entered a period of [apprenticeship](#) in photogravure—with Prof. Em. Jan Pettersson and MA Enrique Guadarrama Solis—the group critiques at the Dpt. of Art and Crafts, where I have been involved as an invited Professor for many years, I have become aware of a number of possible connections between deeper aspects of *printmaking* and the nature of *learning*. That is, areas of learning connected to [ekphrastic communication](#): the verbal transposition of the *material detail* of visual communication. The connection between photo-mechanic processes and deep learning.

The ethnography produced by Jan Pettersson in establishing the making of photogravure as a method of [archaeological search](#) into the early forms of this modern technique, is a case in point. After years of materialising the technique with artistic contents—in the workshop, critiques, visits, workshops and seminars—he has turned to reading older scripts such as *Manuel d'héliogravure en taille douce* (M. Schiltz, 1889) and *Héliogravure au grain—trichromie, rotogravure, impression* (1934, Martelle Thièle). Books obviate the materialisation of *ekphrastic* language in print.

The order of these 2 manoeuvres are of the essence, in order to *find* and *pursue* the trail of deep learning. By making a [video](#) in which the steps of photogravure (a truly complex photo-mechanic process), Pettersson established a memo for the students and teachers at the Oslo National Academy of the Arts, who want to enter a system of apprenticeship established by him, and continue working within the framework of the Photogravure Club. Featuring photogravure as a process of *communicative* interaction driven on by the *materialisation* of artistic contents.



Fig. 2—M. Schiltz. *Manuel d'héliogravure* (1889). Cover. We will not go into the fine print of the difference between héliogravure and photogravure here. It will suffice, for the present purposes, that héliogravure means sun-print (from Helios sun).

Such collective materialisation of artistic contents, takes mainly place within the framework of the club: establishing the craft of photogravure within the lingo a 'trade-union', as an artistic reference. From a photo-mechanic vantage point, the work is organised into 3 clearly distinct workshop settings: **1)** the dry exposure of a selected screen and a positive unto a gelatine emulsion paper [treatable in yellow light]; **2) a)** the transference and fixation of the exposed paper unto a copper-plate; **b)** the etching of the the copperplate in ferric chloride baths [both in a humid work lab]; **3)** the transference from the inked copperplate unto a selected paper [featuring the actual print].

As the alert general reader will already have noted, learning photogravure comes with a special style of *editing*: the ekphrastic communication from the photomechanical process to the [notebooks](#)—which all practitioners are required to have. These *modern grimoires* have some common points. Given the complexity of the process, the practitioner will typically **A)** compress information [*pro memoria*]; **B)** harvest a *new layer* of information through compression; **C)** program the activities in the workshops based on this new layer. This point is of great importance, because its means that this modern technique has *innovation* built into its standard practice (seen from the vantage point of [poiesis](#)).

It is important to consider that photogravure from the start was never a set technique: the state of the art technique, for instance, now includes digital technology in the rendering and prints of the positives (called originals). And the interest of looking back to study the state of the art in e.g. 1889 and 1934 (the two selected references above). However, the 3-point *learning protocol* above can also be feature as a model of *rote learning*: a style of learning in its—often assumed and unassigned—raw practical form, that we perhaps could call *deep, unassuming, tacit learning*.

Tacit does *not* mean silent—as is often mistakenly assumed—but muffled, or in lowkey notebook prose. But it is also tacitly formulated in a completely different field: the above 3-step protocol is basically the same as the one [Ilya Sutskever](#) has used for a pedagogical explanation of artificial intelligence. That is, **A**) compressing a harvest of sufficiently complex data; **B**) letting the compression generate a new layer of data; **C**) then programming directly from these new data. Of course there is a striking difference: while photogravure is *mechanic*, AI is *automated*. This is important.

The models are also similar in the sense that they both involve [criticality](#). However, the *poiesis*, of photogravure clearly differs from AI, in which the protocol of rote learning is executed at the *machine-level*. This difference comes clearly out when we turn to kind of materialisation features in *print*: while the *screen* (used during exposure) and the *print* (unto paper) are *distinct* in photogravure, the computer has the particularity that it can print unto *itself* (e.g. pdf and screenshots). But we are challenged as soon as we consider that a print-out is *no less* digital than a screenshot.

When we use the term ‘computer screen’ we are readily implying that this screen entertains a privileged relation to the computer: given the array of printing jobs that a computer can assist beyond the screen... copying machine, plotters, 3D printers, CNC mills, laser-cutters and so on. The printing of the screen unto itself can entail a mathematical *homomorphism*, in the sense that the array of other computer assisted printing-options maps back unto its “screens”. Which is why it is possible to dock a computer into operational chains, and learn from it (within the interface).

We have here also picked up on elements that map photogravure and AI unto each other (such as in the 3-step protocol above). We should therefore not be surprised when we assert—on the basis of observation—that the *deep learning* that takes place in photogravure maps **a**) the screen (used during exposure) and **b**) the print (unto paper) through human being: as an operating and thinking body. Indeed, the use of the *jeweller’s eye* to inspect the screen **1**) after exposure, **2**) during the wet-phase and **3**) looking at the printed result, is an integral part of the photogravure-craft.

So the body of the practitioner of photogravure is in exchange with itself, owing to the 3-point registration above, though the intermedium of the jeweller’s eye. Of course, the technology used for this function (the jeweller’s eye) has evolved as much as photogravure itself, partaking of the inbuilt structure of innovation point out above. Below (Fig. 3) is shown a model of digital microscope that can be readily used in the jeweller’s eye function. In fact, Prof. Jan Pettersson recently was gifted one (of this make) as a parting gift, when he passed unto the ranks of the Prof. Em.



Fig. 3—APEXEL Handheld Digital Microscope, gifted to Jan Pettersson (alias Stefan von Böös) from his department when he became professor emeritus.

Where Pettersson’s contribution to KHIO has been in photogravure, mine is (humbly) in our work with the [learning theatre](#) at the dpt.of design. That is, a theatre conceptually midway between the anatomic and the dramatic theatre: a semiotic theatre. Photogravure offers, in my sense, a striking case/example of the learning theatre: in the sense that the technical layers of operations that it involve not only range from Stone Age to digital, but holds the *entire range* of techniques and care that are involved in printmaking. Which is how a case in point of printmaking in the narrow field, has showed itself able to hold [printmaking in the expanded field](#).

As a learning theatre, photogravure acts as a material *container* for a complex skillset that, under the impact of collective materialisation of artistic *contents*—i.e. crowdsourcing in group critiques—exposes the practitioner to a range of [artistic choices](#). As a *sign*: the *signified* hatches a *shift* in the *signifier*, that prompts pathfinding and goalseeking in the field. I want to alert the readers of photogravure holds this possibility and constitutes an [artistic proposition](#).