deMorgan: *Trigonometry and double algebra*, London Taylor, Walther & Haberli **1849**, p.92-93

Constructing within the symbolic

a thought experiment

»Nothing can be clearer than the possibility of dictating the symbols with which to proceed, and the mode of using them, without any information whatever on the meaning of the former, or the purpose of the latter. A person who should learn how to put together a map of Europe dissected before the paper is pasted on, would have symbols, various shaped pieces of wood, and rules of operation, directions to put them together so as to make the edges fit, and the whole form an oblong figure. Let him go on until he can do this with any degree of expertness, and he has no consciousness of having learnt anything: but paste on the engraved paper, and he is soon made sensible that he has become master of the forms and relative situations of the European countries and seas.

As soon as the idea of acquiring symbols and laws of combination, without given meaning, has become familiar, the student has the notion of what I will call a symbolic calculus; which, with certain symbols and certain laws of combination, is symbolic algebra: an art, not a science; and an apparently useless art, except as it may afterwards furnish the grammar of a science. The proficient in a symbolic calculus would naturally demand a supply of meaning. Suppose him left without the power of obtaining it from without [the meaning]. His teacher is dead, and he must invent meanings for himself. His problem is, Given symbols

and laws of combination, required meanings for the symbols of which the right to make those combinations shall be a logical consequence. He tries and succeeds; he invents a set of meanings which satisfy the conditions. Has he then supplied what his teacher would have given, if he had lived? in one particular, certainly: he has turned his symbolic calculus into a significant one. But it does not follow he has done it in the way his teacher would have taught him, had he lived. It is possible that many different meanings may, when attached to the symbols, make the rules necessary consequences. We may try this in a small way with three symbols, and one rule of connexion.

Given symbols M, N, +, and one sole relation of combination, namely that M + N is the same as N + M. Here is a symbolic calculus: how can it be made a significant one? In the following ways, among others.

1. M and N may be magnitudes, + the sign of addition of the second to the first.
2. M and N may be numbers, and + the sign of multiplying the first by the second.
3. M and N may be lines, and + the direction to make a rectangle with the antecedent for a base, and the consequent for an altitude.
4. M and N may be men, and + the assertion that the antecedent is the brother of the consequent.
5. M and N may be nations, and + the sign of the consequent having fought a battle with the antecedent.«

Domesticating symbols

deMorgan fantastisches Scenario aus der Mitte des Neunzehnten Jahrhunderts ist heute vielleicht aktueller denn je.

Aufgabe:
Gegeben sei ein Haufen von Symbolen, „various pieces of wood“ und „rules of operations“ sowie „directions to put them together“ im gegebenen Ziel, die Teile so zu fügen dass die Kanten passen, dass die ganze Form rechteckig wird.

Lernen: technisches Umgehen mit diesem Fügen. Sonst nichts.

Dann, sobald die extrasystemische Bedeutung dazukommt - das Bild der Europakarte, das die Bedeutung des „recheckigen Ganzen“ (was Ziel des Symbolischen Fügens war) vollständig und sichtbar macht, mit folgendem Effekt: wenn dann die Europakarte - oh surprise - exakt darauf passt, stellt sich sofort das Gefühl beim Experten des Fügens im Symbolischen ein: Wenn ich die Symbole Europas so gut und schnell fügen kann, muss ich ja alles über die Länder, Meere, Täler und Hügel von Europa wissen!

Was nun, wenn sowohl technisches Ziel: rechteckige Fügung der Teile, wie auch die äussere Bedeutung: diese Form passt zur Karte Europas, *nicht gegeben* sind.

Wenn man sie erfinden muss, um mit dem Haufen Symbole überhaupt etwas anzufangen.

Kandidaten für die Ziele sind heute überall wo es um Information geht: Sequenzen, Abfolgende Muster, Patterns.

Nach der externen Bedeutung dieser Sequenzen, dieser Informationsketten, rätselt man ... man sucht nach Isomorphien, Strukturgleichheiten.

Die Sequenzen als Sequenzen und Serien (und nicht als Zahlenfolgen und

Reihen) sind aber immer schon im Probabilistischen. Das Differential zwischen Zeichen/ Bezeichnetem, die paradoxen Serien des Sinns, Deleuze.

Das digitale Codieren macht es möglich, nach Symmetrieverhältnissen zu suchen und diese zu erkunden, darauf zu konstruieren anfangen. Muster und damit Gemeinsamkeiten zu erkennen, überall.