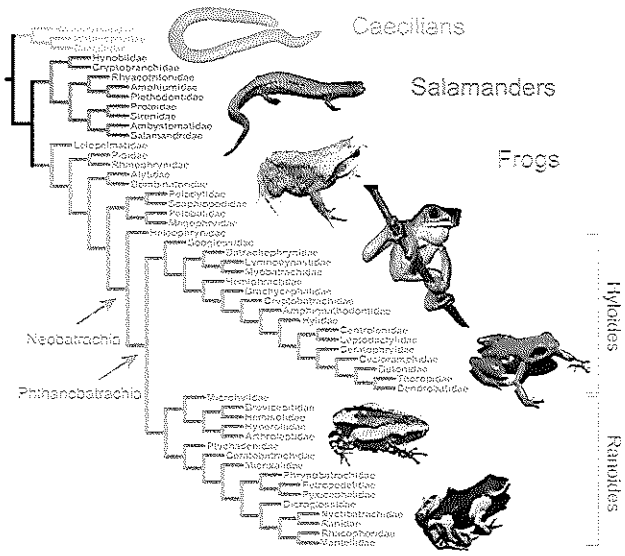
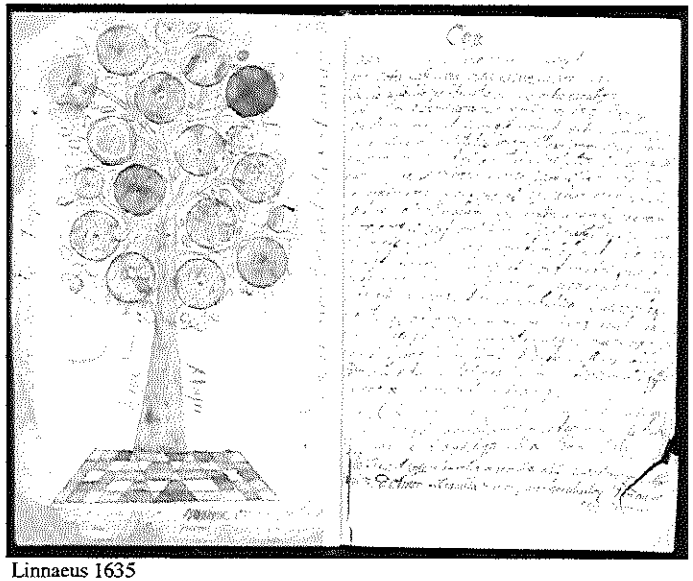
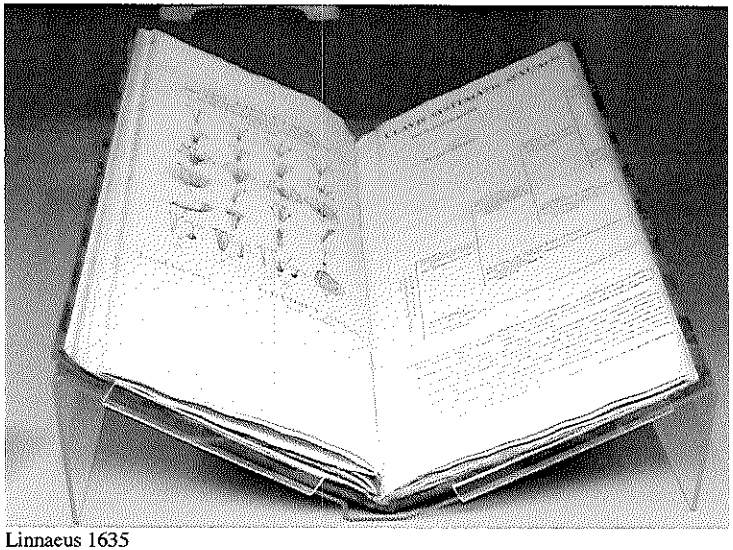
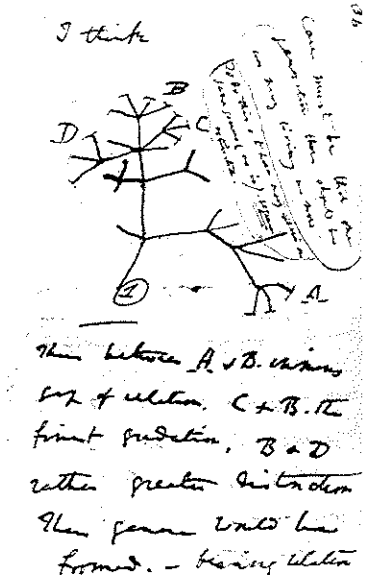




Linnaeus 1635



Linnaeus 1635



Darwin 1837

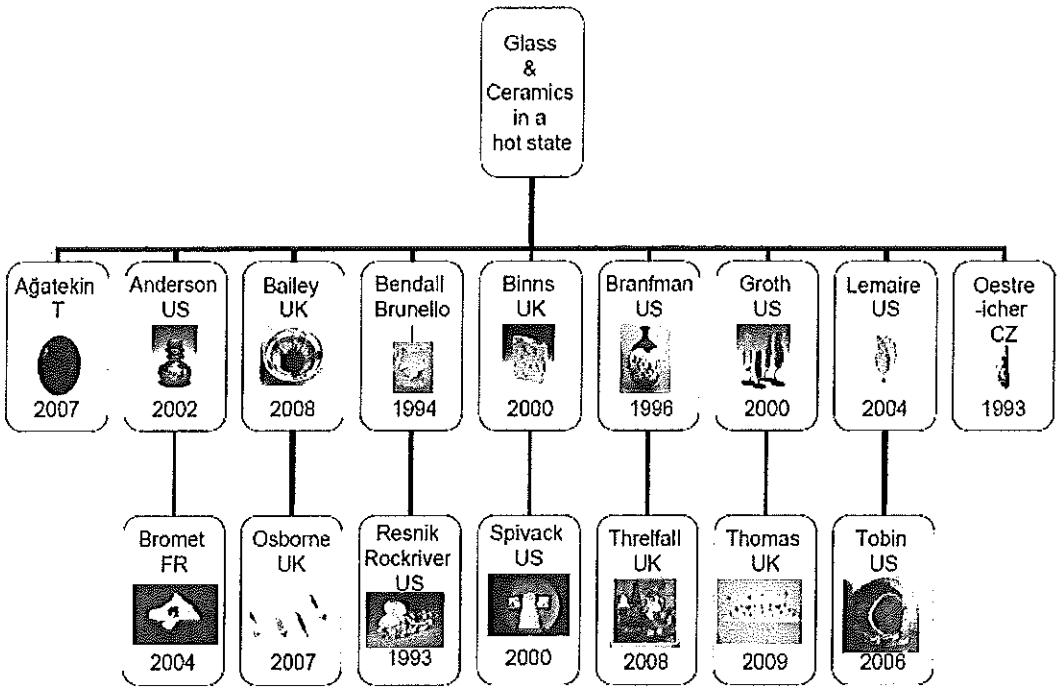
Table fifteen Semiotic categories, principles of division, intermediate and final taxonomic classes. The thirteen italicized terms to the right are the final classes in the taxonomy.

Semiotic category	Principle of division	Taxonomic class
Material qualities (concerning the trademark per se): what trademarks show.	Dimensions (type and number)	Graphic marks
		Non-graphic marks
	Graphic form	Picture marks
		Letter marks
	Picture form	Figurative marks
		Non-figurative marks
	Letter combination form	Name marks
		Abbreviations
	Abbreviation form	Initial abbreviations
		Non-initial abbreviations
	Initial abbreviation form	*Acronyms*
		Non-acronym initial abbreviations
Referential qualities (concerning the relationship between the trademark and its object): what trademarks mean.	Visual reference	*Descriptive marks*
		Metaphoric marks
		Found marks
	Linguistic reference	*Proper names*
		Descriptive names
		Metaphoric names
		Found names
		Artificial names

Table sixteen Taxonomic tree of trademarks. Final classes are italicized.

- Trademarks 1
  - Graphic marks 1.1
    - Picture marks 1.1.1
      - Figurative marks 1.1.1.1
        - *Descriptive marks* 1.1.1.1.1
        - *Metaphoric marks* 1.1.1.1.2
        - *Found marks* 1.1.1.1.3
      - *Non-figurative marks* 1.1.1.2
    - Letter marks 1.1.2
      - Name marks 1.1.2.1
        - *Proper names* 1.1.2.1.1
        - *Descriptive names* 1.1.2.1.2
        - *Metaphoric names* 1.1.2.1.3
        - *Found names* 1.1.2.1.4
        - *Artificial names* 1.1.2.1.5
      - Abbreviations 1.1.2.2
        - Initial abbreviations 1.1.2.2.1
          - *Acronyms* 1.1.2.2.1.1
          - *Non-acronym initial abbreviations* 1.1.2.2.1.2
        - *Non-initial abbreviations* 1.1.2.2.2
  - *Non-graphic marks* 1.2

Table 1 Visual Map of Artists that combine ceramics with glass in a hot state [23]



A recent artist to exemplify this approach is Mustafa Ağatekin, who uses ceramic materials as an inclusion material in his glass artworks (see Figure 17), which he combines in a hot state by fusing different layers together. No visible cracks or stresses can be seen in his work which suggests that his system is compatible. He first started to combine both materials in his work in 2007, he went on to publish his research in the Australian journal *Ceramics Technical* (Ağatekin, 2009, pp.16-20).

Figure 17 Ağatekin, 2007, 'Secret series' Fused sheet glass and ceramics 29 x 43cm

[23] The dates refer to when the artists first started to work in both materials

Contents

List of practical work submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy

The taxonomic structure

In order to fulfil its purpose, a taxonomy must comply with five rules:

An ideal classification must consist of classes that are distinct. There must be sharp distinctions between classes. The classification of any single entry must be clear;

The characteristics on which the classification is based must be used consistently. Each step in the classification must be based on one principle of division;

Co-ordinate classes of the taxonomy must be mutually exclusive. There must be no overlapping between classes. No single entry must be covered by more than one class;

The co-ordinate classes must be collectively exhaustive. They must cover all possible entries;

The classes must be relevant to the purpose of the taxonomy.

For pragmatic reasons this taxonomy of trademarks is less than ideal in some respects. It has been structured in a way that includes apparent weaknesses of distinction and exclusion. The first and third rule have been violated in order to satisfy the fifth rule.

The taxonomy does not present distinct limits between all co-ordinate classes. The qualities of trademarks are not necessarily clear and discrete, and they are usually found on a continuum. The letters of a letter mark can be so special in their shape that almost nobody recognizes them as letters. The explanation that makes a trademark a descriptive mark may be almost forgotten and, to most users, leave the trademark as a found mark or even a non-figurative mark.

The characteristics are used consistently. Only one principle of division is used for each step.

Co-ordinate classes are not mutually exclusive. A trademark can contain one or more letters and a picture and can thereby belong to two co-ordinate classes. Other combinations of co-ordinate classes can appear. A name mark can contain both a proper name and a descriptive name.

To put it another way, the taxonomy works relative to exclusivity and to the isolated qualities of trademarks. In practice, the qualities described in co-ordinate classes do not all exclude each other but appear concurrently. One trademark may have qualities belonging to two or more co-ordinate classes.

One reason for the acceptance of this state of affairs is that the taxonomy would be much larger and highly unmanageable if it were to cover all possible combinations of trademark qualities by separate classes. For analytical purposes, a trademark should be classified according to all its 'split personalities'.

The co-ordinate classes are, indeed, collectively exhaustive. They include any conceivable trademark. If a trademark is not graphic, it is non-graphic, and so on.

The purpose of the taxonomy is not to enable classification beyond discussion and critique. It is to shed light on the nature and variety of trademarks and to facilitate analysis of the production of meaning in trademarks.

The divisions of the taxonomy refer to the trademark per se, that is, to the material qualities of the trademark, and to the relationship between the trademark and its object or the referential qualities of the trademark. The divisions of the taxonomy do not refer to the objects per se.

Principles of division referring to objects of the trademarks could have been related to the structure of identity: on the one side organizational or branded identity; on the other monistic, endorsed or pluralistic identity. These two sets, each with three divisions, would have demanded much space and added little to the understanding of the visual variety and production of meaning in trademarks. The interesting and rewarding phenomena in terms of formal variation and production of meaning seem to be in relation to the material and referential qualities of the trademarks.

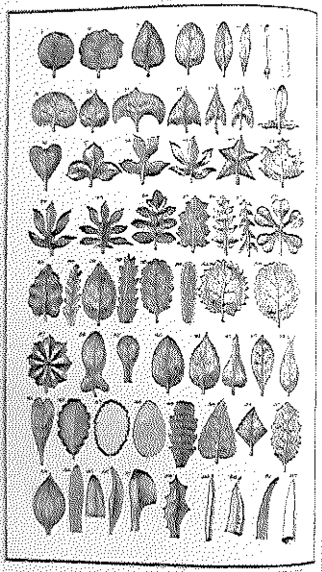
The material qualities of a trademark will probably be understood in the same way by most sign users. The culture of the sign user and the context in which the sign is used may, however, vary from one user to another, and that will influence the interpretation of the sign, in other words the referential qualities.

That different sign users interpret the same trademark in different ways means that one trademark can be classified in more than one way. Consequently, all classifications of trademarks in this taxonomy are 'possible' classifications. Somebody else within another culture and/or in another context may – and probably will – interpret and classify at least some trademarks in another way.

Table 14 shows in schematic form two semiotic categories (types of qualities), eight principles of division, seven intermediate and thirteen final classes of the taxonomy.

The taxonomy of trademarks is shown here as a tree. The stem is the *summum genus*, the class in which the division begins. The thirteen branches to the right are the *infima species*, the final classes. In between are the *subaltern genera*, the intermediate classes.

Acronyms, non-acronym initial abbreviations and non-initial abbreviations could each have been further divided as name marks are, into proper names, descriptive names, metaphoric names, found names and artificial names, but that would probably be to stretch the idea too far. Most abbreviations stand for descriptive names that – in search of completeness – became too long for practical use.



[6]

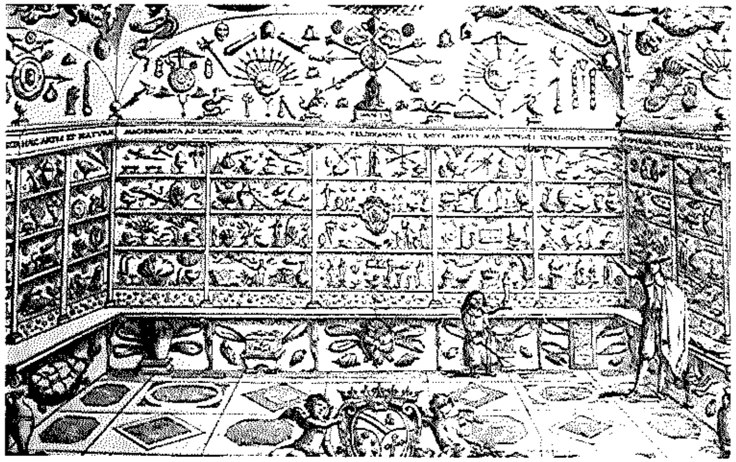
Plate IV. *Simple Leaves.*

Fig. 1. Orbiculate.
2. Roundish.
3. Ovate.
4. Oval.
5. Oblong.
6. Lanceolate.
7. Linear.
8. Subulate or awl-shaped.
9. Reniform or kidney-shaped.
10. Cordate or heart-shaped.
11. Lunate or crescent-shaped.
12. Triangular.
13. Sagittate or arrow-shaped.
14. Heart-arrow shaped.
15. Hastate or halbert-shaped.
16. Obcordate or inversely heart-shaped.
17. 3 lobed.
18. Præmorse or as if bitten.
19. Lobed.
20. 5 angled.
21. Eroded or gnawed.
22. Palmate.
23. Pinnatifid or wing-cleft.
24. Laciniate or jagged.
25. Sinuate or indented.
26. Tooth-sinuate.
27. Runcinate or barbed.
28. Parted or divided.
29. Repand or serpentine.
30. Toothed.
31. Serrate.
32. Doubly serrate.
33. Doubly crenate or scalloped.
34. Cartilaginous.

Fig. 35. Acutely crenate or scalloped.
36. Obtusely crenate.
37. Plaited.
38. Pandureform or fiddle-shaped.
39. Spatulate or shaped like a battledore.
40. Obtuse.
41. Acute.
42. Acuminate or pointed.
43. Obtuse with a point.
44. Acutely emarginate or notched.
45. Cuneiform or wedge-shaped.
46. Retuse.
47. Hairy.
48. Downy.
49. Hispid or covered with stiff bristles.
50. Ciliate or fringed.
51. Rhomboid.
52. Veined.
53. Nerved.
54. Papillous or pimpled.
55. Pinnated.
56. Acinaciform or scimetar-shaped.
57. Dolabriform or hatchet-shaped.
58. Deltoid.
59. Triangular.
60. Channeled.
61. Furrowed or grooved.
62. Cylindrical or without angles.

VOL. V.—E Plate

Linnaeus 1635



Test set 3:

Recipes used for Set 3 – Line Blend [ash (A) / ball clay (B)]

Recipes expressed in percentages by weight:

1.	2.	3.	4.	5.	6.	7.	8.
100A	90A 10B	80A 20B	70A 30B	60A 40B	50A 50B	40A 60B	30A 70B

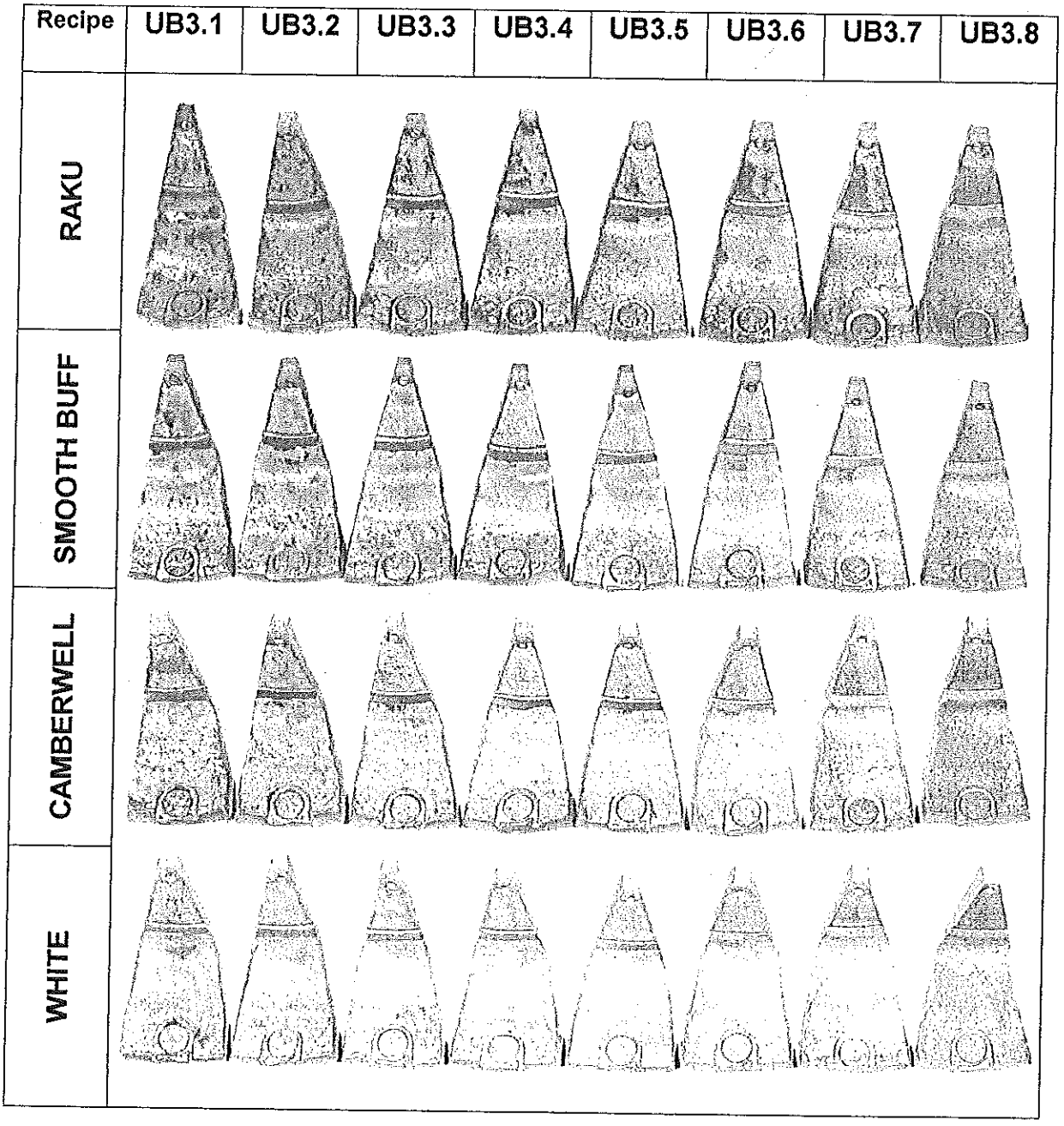
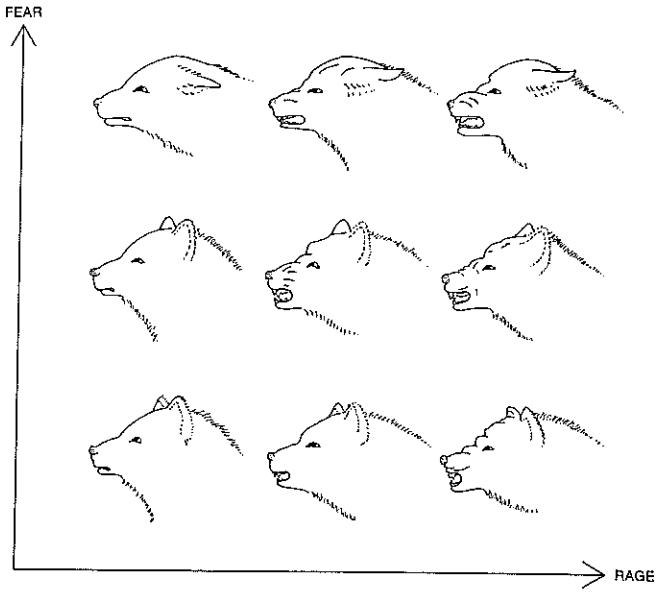


Figure 130:
Test set 3: Unwashed bean ash recipes UB3.1 – UB3.8

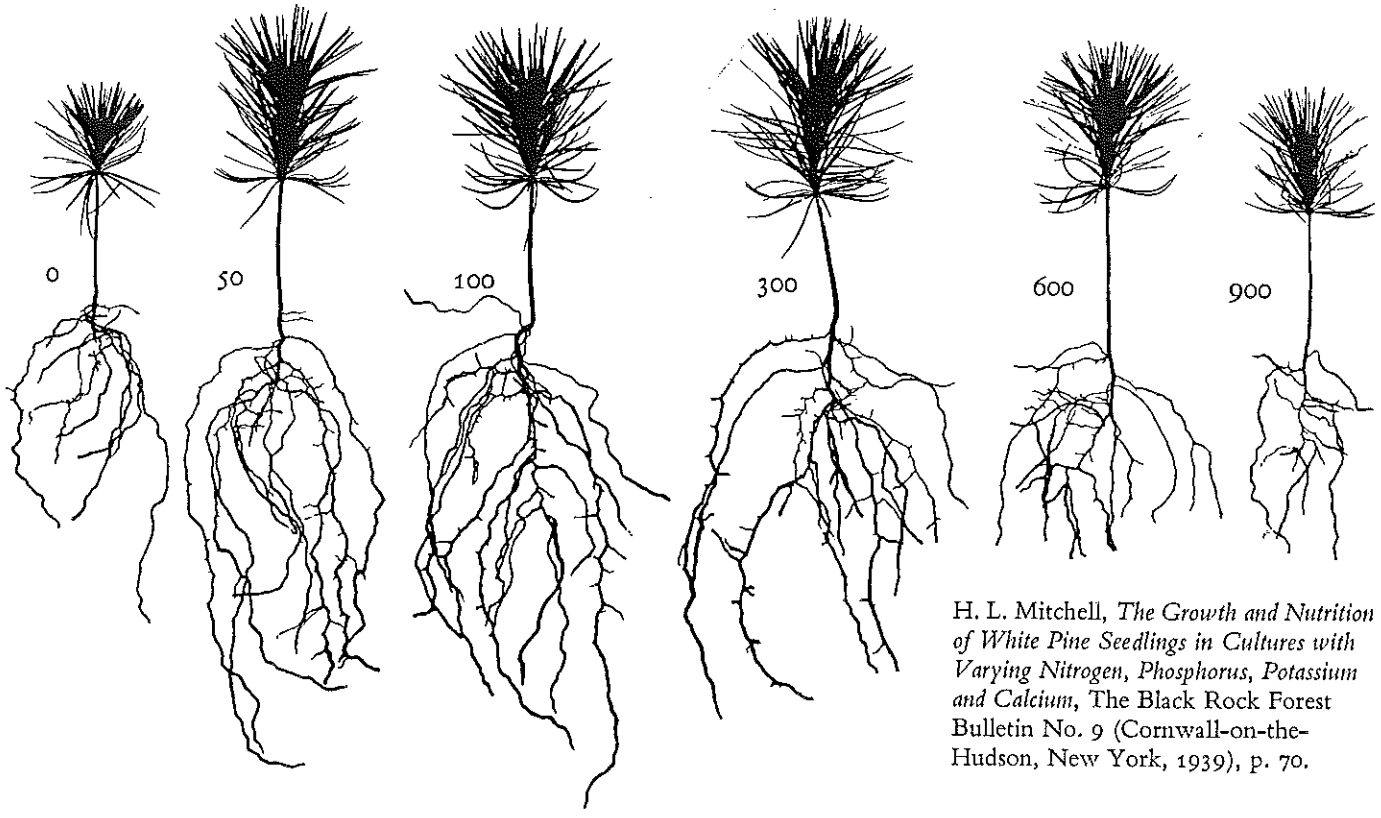
[Photography: David Williams]

Finally, two relational designs of a different sort—wherein the data points are themselves data. Here the effect of two variables interacting is portrayed by the faces on the plotting field:

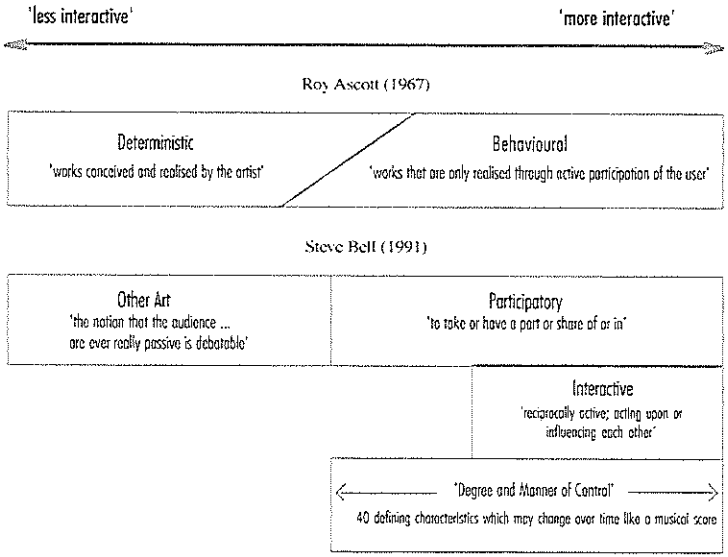
E. C. Zeeman, "Catastrophe Theory," *Scientific American*, 234 (April 1976), 67; based on Konrad Z. Lorenz, *King Solomon's Ring* (New York, 1952).



And similarly, the varying sizes of white pine seedlings after growing for one season in sand containing different amounts of calcium, in parts per million in nutrient-sand cultures:



H. L. Mitchell, *The Growth and Nutrition of White Pine Seedlings in Cultures with Varying Nitrogen, Phosphorus, Potassium and Calcium*, The Black Rock Forest Bulletin No. 9 (Cornwall-on-the-Hudson, New York, 1939), p. 70.



From:

A Study of Audience Relationships with Interactive Computer-Based Visual Artworks in Gallery Settings, through Observation, Art Practice, and Curation. The University of Sunderland. 1997