Chapter 6
Cultural Selection

> "Time ensures that we live in a dynamic flux. It was for this reason that Marshall believed that 'the Mecca of the economist lies in economic biology'."
> *Richard Bronk*[1]

> "There is no such thing as the [sic] culture; there are cultural processes."
> *Wolfgang Lipp*[2]

What place does the individual occupy in the social whole, in the postmodern space of social distance and proximity, of width and length of diversity? Which social structure results from this, which style system? These are the issues discussed below.

The orthodoxy predicts by simulating human optimisation. That is, it would address these issues by determining the simultaneous effect of $m \cdot n$ individual optima for the $m \cdot n$ objective functions (13), for given decision options and restrictions (Table 8 and 11) and given the cultural trade-off (Figure 9). The social-cum-style equilibrium thus found would be a static one. No individual style in the common style and no common style in the style system could be repositioned in the plane spanned open by width and length without the happiness/utility of the initiator of the change being adversely affected. The follow-up question about the relevance of this equilibrium, the orthodoxy would answer by determining its stability properties. If the interaction of $m \cdot n$-fold optimisation led to this equilibrium, the orthodox predictions would also include statements about

1 Bronk 2009, p. 69.

2 Lipp 2014, p. 121 (my translation).

the trajectory (into the equilibrium) and the parameter constellation, which would make it stable. Culture and the social would have a mechanical relationship, driven by economic optimisation, and social change would be as predictable as the course of the stars.

Neuropsychology continually refutes the idea that the human brain is an organ for optimisation. Fast, habitual, unconscious thought is the default. Slow, conscious thought is the exception, yet it can be activated at any time by the experience of an inconsistency between what is habitually expected and what actually happens.[3] At first, we act unconsciously and spontaneously without calculation. Until the unexpected happens, then we act slowly, deliberately, with calculation. This has consequences for many traditional concepts of the orthodoxy. For its optimisation paradigm it follows that it is empirically only of limited productivity. To the extent that habitual action does not lead empirically to surprising results, the paradigm remains unproductive.[4] That is, conscious action, including optimisation, remains conditional – dependent on the experience of failure of habitual thought and action. Optimisation is therefore only an occasional corrective in human thinking.

This must be taken into account in QTC. By my assumption, individuals choose their *o/+consumption* habitually. It is not always the result of optimisation. New objects (from industry) and new object combinations (bricolage) initially find habitual entry into *o/+consumption*. Investments in *nudging*[5] thus pay off for the industry (and perhaps also its customers). In the sorting plant of culture, innovations are spontaneously assigned a place as a singleton, an element of a chain, in a tree. Fashion is thus initially the fruit of habitual individual and collective experimentation, and new objects have (initially and repeatedly) some positive or negative effect on the efficiency of culture, on individuality and the social distance from the social whole. The style system is in (orthodox) disequilibrium at all times.

But only part of the perceived effect of *o/+consumption* is in line with consumer expectations. Some expectations are more than met, for example, a tried and tested object strengthens individuality more than expected: Emma Hart made the surprising experience that as a living statue she could move the Neapolitan society even to tears; Beau Brummel that his snide remarks were of no small service to him. And some expectations will be dashed: Ramon Magsaysay had good experiences with piña, but he might have been disappointed by another

3 Kahneman 2011.

4 Duhigg 2013.

5 Thaler and Sunstein 2008.

experiment that didn't produce the anticipated effect. Such experience brings slow, deliberate thinking into play: what worked for piña, what didn't work for the other attempt, and what do I learn from it with regard to the objective function (13), and the options and restrictions for taking action (Tables 9 and 11)? Thus, fast and slow thinking gives rise to tension in the style system: between habitual and deliberate action, between success and failure, sub-optimality and striving for improvement.

Style followers think and act fast with regard to showing and not showing objects; if they think slowly, for example by reflecting on new instructions for action in the sorting plant of the culture, they do so only with regard to showing and not showing (Table 8). Their slow and fast thinking revolves solely around *o/+consumption*. When thinking slowly, they never question the operating instructions for the sorting plant, and if they do, they become style leaders. When style leaders think slowly, they act (like their followers) in their own interest (13). But not exclusively by showing and not showing. Their slow thinking is also directed towards the instructions for the sorting plant of the culture – primarily in their elective affinity, but also in the entire style system. Their slow thinking aims at manipulating the manipulable part, $\square''$, of culture, $\square$, (Table 11). It's their slow thinking that lets culture, as 'crystallised history', liquefy at its melting edge, $\square''$.

I assume that the slow thinking and acting of the style leadership, repeatedly thrown back by the fast thinking and acting of everyone, nevertheless has a tendency to show effects. This is to say that the agency of style leadership pushes the style system towards cultural efficiency, thereby tending to enhance the happiness/utility of all – through increasingly better instructions for the sorting plant of culture. So, the slow thinking and acting of style leadership results in cultural selection. It is the subject of this chapter. QTC is therefore also a theory of cultural evolution.

The theory of cultural evolution, which has been thriving for a few decades, does not shy away from drawing parallels between the evolution of genetically coded information and the proliferation of socially transferred information, encoded in beliefs, skills, norms, traditions and conventions.[6] Such information, according to QTC, are the instructions of the style leadership for the sorting plant of culture. Consequently, cultural evolution is not a random cultural drift or mutation. It is systematic cultural selection due to human agency.

6 Mesoudi 2017.

Feature Inflation

The efficiency properties of culture, relations (20), direct analytical attention to the feature vector as a variable that can be manipulated by style leadership (see also Table 11). The question is whether a feature vector, $\underline{m}_j^*(\square'')$, exists in that part of culture, $\square''$, that can be manipulated by style leadership, instructing workers in culture's sorting plant to order the set of objects X into a phylogram. If so, the objective function (13) sets the collective incentive for the style leadership to instruct its followers to replace $\underline{m}_j(\square'')$ by $\underline{m}_j^*(\square'')$. For a given set X, an expansion of the feature vector by additional features tends to reduce the number of dominated objects. This is because the more features taken into account, the greater the probability that an object is not dominated by another object in all features. Encouraging workers in the sorting plant to take more and more features into consideration will therefore help improve efficiency.

A licence from the style leadership to its followers, to order the world of objects according to any and as many features as they like, would be an indication that style leadership acts in the interest of cultural efficiency. Such conduct would spark a long-term stylistic evolution towards cultural efficiency and, over time, lessen the inefficiencies caused by habitual experimentation.

In practice, we actually find such manipulations by the style leadership – and nowhere more so than in art, the most widely observed subset of the world of objects. Thomas Girst's and Magnus Resch's collection *100 Secrets of the Art World*, of artists, museum directors, gallery owners, auction house insiders, and art critics, is full of invitations not to interpret the feature space for ordering art objects too narrowly.[7] Some examples are:

- "[A]rt is an object in space …"
- "Everyone is an artist."
- "Turn art into a real and singular experience by approaching it through anecdotes."
- "Art is a place without borders. It is […] in a space that is infinite. Art has the power to disorient; like being in a cloud, or caught in an avalanche, not distinguishing up from down. […] Art breaks down borders and overcomes restrictions with the goal of stimulating both conscious processes and conscious thoughts. […] These dots, lines, strokes lead beyond the canvas, the page, the concert hall, into the unknown where again your best friend is the imagination."

7 Girst and Resch 2016.

- "Walking around the National Gallery with Cecily Brown beat all of the art history lessons I had at school."
- "The question then is what makes art become something."
- "Artists' secrets can only remain secret."
- "The biggest secret in the art world is that no one knows what's contemporary art!"
- "Whatever reason brings people into the art world, it is for a good reason."
- "If you want to break an artist's heart, pay him/her a compliment that starts with 'Your work reminds me of…'"
- "Visit museums on a slow day, wear comfortable shoes."
- "Art is long, life short, judgement difficult, opportunity transient."
- "The secret of art is seeing. […] Go in deeper."
- "My grandmother was a conceptual artist. Wherever she spent her holidays, for many years, she always sent me a postcard with the same line: *'Alles Scheiße, Deine Emma'* […]. And Emma wasn't even her name!"
- "There is no such thing as a secret to success in the art world, just hard work."
- "We should remember that the artist Marcel Duchamp […] was fighting a system that rewards some and ignores others."
- "Gone are the days when a small coterie of informed insiders […] sustained an ongoing conversation […] enveloping art in what Arthur Danto called 'an atmosphere of theory'."
- "Art is just a moment, a moment of sublimity."
- "The first thing about art is that it does what it's not supposed to do."
- "Look with an open and thoughtful mind."
- "Great pictures, like close friends, always have something new to teach us. There's no end to them."

Such statements invite the almost limitless expansion of the feature space and thus the tendency to rearrange objects, previously dominated in all features, into objects which are not dominated in at least one feature, whereby chains are thinned out. Style leadership in the art business produces a cultural selection in the direction of cultural efficiency.

I can now formulate the first hypothesis:

> Inflation Law (H_I): the feature space, $\underline{m}_j$, for the establishment of partial order in the world of objects, X, grows larger and larger.

Hypothesis 1 states that even with a stable non-ordered world of objects, X, culture becomes ever more complex, in that sorting rules are employed which over

time take more and more features into account. The familiar 'But you also have to take this and that into account' is not a curiosity of our time, but systematically laid out in the incentive system of postmodernism.

The Rise of Anti-Aesthetics

The aforementioned manipulation by the style leadership increases the likelihood that previously dominated objects will become suprema, simply by the *unspecified* expansion of the feature space. However, the style leadership in the art sector also provides *specific* guidance for the transformation of dominated objects into suprema. Consider the following 'secret' from the collection of Thomas Girsch and Magnus Resch:

> "Nothing will be conceptually or visually interesting if there are no oppositions, if there are no contradictions, if there are no parallels, if there are no extremities. I believe that everything co-exists in this world but I would like to keep or see polarity/ambivalence/opposition /contradictions/parallels/extremities next to each other/facing each other."

This is an invitation to abandon the simple truths of dominance orders and acknowledge the world of objects in its inconsistencies, contradictions and incompatibilities. As a consequence, dominated objects are not transformed into suprema solely by the 'law of the great number of features', but by deliberately observing what distinguishes them from other objects and why they chafe each other.

Anti-aesthetics is a movement that propagates exactly that. The isolationism of the art world, which comes hand-in-hand with the Kantian ideal of the purposeless nature of art, is a thorn in its side: how can one be involved with art without searching for and finding in it the turmoil of the world? It is an approach that discovers dissolution of order in the smaller art world that exists in the greater world. Chains, |, are subsequently dissolved because they conceal the true contradictions of their objects. The apocalyptic aesthetics of punk is anti-aesthetic as an approach and exemplary for all marginalised elective affinities, in eternal opposition to the mainstream with their common styles.[8] The subordinate rank assigned to them by the mainstream, by virtue of beauty considerations, they ridicule with irony and sarcasm. Features are introduced which, in

8 Mohr 2016.

opposition to those of the mainstream, turn this ranking upside down. The well-ordered world of chains, |, and trees with chains, ⫛, is replaced by phylograms, ⫛′, which take better account of the inherent conflicts, oppositions and contradictions.

Objective function (13) in conjunction with the efficiency properties of the order types (20), and the agency of style leadership summarised in Table 11, deliver the economic explanation for these empirical findings. It can be expressed in the following hypothesis:

> Anti-aesthetics Law (H_2): the proportion of anti-aesthetic features in the feature space, which operationalise social contradictions in the world of objects, is becoming increasingly large.

Hypothesis 2 predicts the triumph of anti-aesthetics over (classical) Kantian aesthetics. This is due to the latter's postulate of a purpose-free art, which compared to anti-aesthetics, constrains the opportunities for bringing objects into (societal) opposition to each other. However, in QTC the hypothesis is neither socio-politically, structurally nor dialectically motivated, but purely micro-economically. Individual happiness/utility of style leaders establishes a collective interest in manipulating culture, in such a way that social contradictions, dilemmas and oppositions are also reflected in instructions for the sorting plant of culture. With this economic perspective, anti-aesthetes such as Marx, Nietzsche, Heidegger, Freud, Wittgenstein, Bourdieu, Poe, De Quincey, Stendhal, Heine and the founder of anti-aesthetics, Baudelaire, have merely made their (selfish) contribution to the improvement of cultural efficiency. In this economic interpretation, the politicisation of art and culture is not causal for the dynamics of the style system, but vice versa: cultural selection is politicising.

Singletons adieu

Relation (20) identifies the antichain of singletons as a culturally inefficient order type. Style leaders have therefore the collective incentive to accommodate singletons in phylograms, by giving conductive instructions to the sorting plant of culture:

> Singleton Law (H_3): singletons disappear.

Singletons are endowed with the aura of uniqueness, which already makes them unsuitable candidates for a place among the dominated objects. For establishing a place in a phylogram, only new features are needed that establish comparability with other objects. This way even former singletons can be made comparable. For example, as unique as the *piña* sewn to the barong tagalog and the Veil of Veronica may be, they can still be compared by their textile features (weight and fineness of fabric) and their symbolic features (more or less iconographic coding). Which features are considered relevant is decided by the style leadership.

Thus, over time, the singleton piña becomes one of many signs of Philippine identity, Marcel Duchamp's *Fontaine* one of many comparable works of Dada, and the ancient Egyptian *Letters of Heqanakht* an early example of commercial thinking. In cultural selection, the archaeological principle reigns over singletons: you find something that you've never seen before, but you don't give up until you can locate it somewhere in what's already familiar.

The antichain $(X, \sqsubset\sqsupset)$ is nothing but the non-ordered set, X, itself. Our sense for orderliness that shows itself in upbringing, education and guidance turns the antichain into something disturbing. In QTC, love of orderliness is owing to the interest in improving cultural efficiency. Self-set rules are a case in point. The card game *Quartet* demonstrates the principle. In grammar there are no words that do not belong to some category. In literature there are no works that do not belong to some genre. Art history as a science is a singleton extinction machine. As is archaeology. As long as it falls under an overarching motto, people can collect whatever they want without ridiculing themselves. Only the proverbial vendor's tray is taboo. In this way, we learn to extinguish singletons that we increasingly experience as something disturbing. Only after we have somehow made them comparable with other objects will we be content.

Phylomania

From hypotheses H_1, H_2, H_3 and relation (20) the following hypothesis is:

> Ordering Law (H_4): in the long term, every object is ordered in a phylogram, $\mathfrak{m}'$.

Hypothesis 4 states that workers in the sorting plant of culture increasingly apply the efficient order type. Their upbringing, schooling, further education, and the constant manipulations of their style leadership allow them to position objects in the efficient order type, the phylogram, $\mathfrak{m}'$. Under the guidance of the style leadership, the work in the sorting plant of culture tends to allow consumers to fully

exploit the potential of the non-ordered world of objects, X, for the joint production of social distance *and* proximity.

H_4 predicts the postmodernist mania of discovering in everything and everyone the unique, the incomparable, as well as the comparable, the kindred. The phylogram is the order type that maps this mania for 'both this and that' and 'this on the one hand and that on the other'. Phylomania is the passion of postmodernism. Nothing is so completely different that it does not fit in somewhere. And nothing is so similar to something else that it has lost all of its uniqueness. Everything is simultaneously known and unknown, familiar and unfamiliar, ordinary and special. The pinnacle of arty zeal is the ability to fit each work of art in somewhere and at the same time to underline its uniqueness. Everyday life becomes more and more devoid of clear-cut verdicts. Gone are the times when something could clearly be better than something else, but also gone are the times when a comparison was completely out of the question. Leonardo becomes comparable with Warhol, Bach with Madonna, but there is also something special in every dilettantism. Phylomania in the world of objects is transferred to the human being. Nobody ever belongs nowhere and there is always a jewel slumbering in every stick-in-the-mud.

It is only on the individual level that phylomania does not manifest itself. The meta-contrasting lenses (Table 5) provide situational clarity for the moment. At the level of the style system as a whole, however, phylomania is a synchronous cacophony of contradictions that makes an object both incomparable and comparable. In light of QTC, the much-commented loss of certainties in postmodernism is due to cultural selection in the direction of efficiency.

In Figure 9, for a given set of objects, X, cultural selection shifts the current position on the trade-off line from, for example, point A or B, towards its intersection with the horizontal axis, C. Length from $(X, \square_d)$ decreases and width increases over time. *Ceteris paribus*, this cultural selection would lead to a complete disappearance of length from $(X, \square_d)$ and lead to the maximum width at point C, which is attained when X is fully ordered as a phylogram. However, this *ceteris paribus* condition is violated intrinsically in the model, as shown below. Efficiency remains a property of culture never fully achieved by cultural selection.

Quality Inflation

Cultural selection with the vectors of feature inflation, rise of anti-aesthetics, extinction of singletons and phylomania is due to the agency of style leadership. But style followers also affect cultural selection through their *o/+consumption*.

Another vector component of cultural selection, to be credited to their agency, is the long-term increase in available qualities:

> Quality Law (H_5): the number of objects in the style system is growing.

However, this also increases the number of dissimilarities and the consumable quality differences in the world of objects. H_5 postulates a Saysian law of quality. The classical Say's law of economics maintains that every supply will create its own demand. Of course, this refers to quantities, so that every quantity offered is also sold. In QTC this condition-rich law finds a counterpart in the Quality Law (H_5). Because the objective function (13) sets an incentive to admit all objects available in the world of objects to the style system. Every new object created by industry tends to make its way to the consumer. For industry, the simplest (and most economical) expansion of the world of objects, X, is by offering ever more objects that fit into a dominance order. Skirts are getting shorter, trousers tighter, hair longer, hotels more family-friendly, clubs trendier, yachts more exclusive, cars more environmentally friendly.

The enrichment of chains with further elements (dominated elements or new suprema) leaves the cardinality of the n chains constant, built from their suprema, $\sqsubset\sqsupset_h$. Therefore, the social distance (8) of the common style, in which the new object is included, remains constant to the social whole. The effect on objective (13) thus depends only on the effect on individuality. From (6) it follows that the addition of an additional object to an individual style, *ceteris paribus*, increases individuality, I_j, in the elective affinity or leaves it constant. The enrichment of the individual style with a new object that has not been used in the style system so far is, *ceteris paribus*, not to the detriment of the consumer.

Happiness/utility of consumer j remains constant only if this new object increases the rooting in the common style by the *entire* length of the chain in which it is inserted. But this is only the case if the new object of the individual style, s_j, is approximately identical to the supremum of the chain in which it has been put, *and* if that supremum is also an element of the other individual styles in the common style they share. So, only if the new object has almost the same quality as a supremum that is already also shown by all of the other members of the elective affinity, will the happiness/utility of consumer j remain constant. An example is the supremum E in Figure 6, if individual j does not actually show E but adds an almost identical object E' to s_j. For a new object that is in this sense not almost identical, utility increases if the consumer incorporates it into their individual style. This is always the case when industry offers new objects, discretely

different from their previous supremum. That is why such newly offered objects always attract demand in the style system.

What remains to be examined is the effect of new elements of a phylogram and of new singletons on the objective function (13). A new element of a phylogram is by definition a (trivial) new supremum. Its use in an individual style enhances individuality (formula 1), because diversity, DIV_c^c, increases more than the rooting R_j^c. Therefore, relation (6) applies as strict inequality. In contrast to a new element of a chain, the width in the style system increases *ceteris paribus*, the common periphery remains constant and social distance (8) increases. A new object expanding the phylogram in a style system enhances the happiness/utility of the consumer who incorporates it into their individual style. New objects on offer and thus new qualities will therefore meet with demand.

Singletons are neither determinants of diversity of the common style, DIV_c^c, nor of the rooting of the individual style, R_j^c. Hence, according to (1), singletons in an individual style, s_j, have no effect on the individuality of the consumer in the present version of QTC. For example, if Ramon Magsaysay had actually introduced the barong tagalog made of piña into the Philippine style system, this would have not increased his individuality within his elective affinity of Filipino nationalists. But the adoption of a singleton that is new for the style system into an individual style, s_j, increases social distance to the social whole, D_h, of the common style to which it belongs. Therefore, the extent of goal accomplishment (13) of consumer *j* increases and, to the same extent, so does the goal accomplishment of all other members of their elective affinity. If the barong tagalog made of piña did not already belong to the Philippine style system, it would have therefore been to Ramon Magsaysay's personal benefit to introduce it, simply because it would have increased the social distance of the nationalists from the Philippine 'Americanists', and for this very reason also benefitted his Filipino followers.

New singletons gain entrance to the style system via at least one individual style. No new object, however incomparable, will ever be invented by a creative mind that will not find its place in the style system. Nothing will ever be so weird to us that it will not become a means to enhance social distance. Every object, no matter how repulsive, bizarre, or fantastic it may be, will be seized upon by some elective affinity. There will always be an individual who will mould even the most outlandish idea into an individual style. The first mohawk hairdo of punk displays the agenda.

This establishes the (Saysian) Quality Law (H_5): the supply of consumable *qualities* will always find its demand. No matter whether a new object appears in chains or phylograms or as a new singleton, it is always to the advantage of some consumer to show it in their individual style.

Up-to-Date Forever

Just as it is to the benefit of at least one consumer to show a newly-offered quality in their individual style, it is to the benefit of at least one consumer that an object does not vanish from the style system. An object may be less and less on show, but there will always be someone to display it in their individual style, no matter its age. Every quality always remains up-to-date for at least someone.

Up-to-Dateness Law (H_6): objects will not vanish from the style system.

As a consequence of H_5 and H_6, in the long term there will be more and more 'old' objects in the style system. This is because new objects are always being added and even if they get old, they are not discarded. This distinguishes cultural from biological evolution. In evolutionary biology, fossils, physically tangible as they may still be today, have no place in the tree of life. This reproductive logic does not exist in culture. Cultural 'fossils' also belong to the world of objects, X. Put another way, the old junk in our collections will never fossilise – everything that has ever existed as a quality will remain up-to-date forever.

'Up-to-date forever' is accounted for in the objective function (13). Cultural chains and trees do not have to be ultra-metric (like phylograms of evolutionary biology), i.e. the vertical 'extension' of chains/branches do not have to be of equal length. In Figure 8, the chain in S_2 is shorter than the vertical extension of the tree. It illustrates, for example, the evolution of a traditional costume that had already come to an end. Take, for example, the Appenzell women's traditional costume, which today is only worn in variations from the chain, on traditional occasions, for example, Corpus Christi. It contributes little to individuality within the group of Appenzell women, but all the more to social distance (from the tourists).[9]

9 Not surprisingly, archaeology employs special concepts for systematising artefacts whose cultural evolution has come to an end (Lyman and O'Brien 2000). Archaeological trees have the vertical dimension time. It begins with the time of origin (soil layer) of the oldest specimen found (thought to be the joint ancestor of all subtypes in the feature space). It ends at each branching of the tree where a lineage ends in the archaeological records, i.e. where no more specimens of this type are found in the younger soil layers. Accordingly, in contrast to the evolutionary phylogram, the branches of the archaeological tree have different lengths back to their joint origin. This possibility, of a historical end to a development, has been accounted for in Figure 8 with a shorter chain. Nor is archaeological diversity measured in terms of length to the present day, as in evolutionary biology with its exclusive focus on existing fauna and flora. For example, the

The Up-to-Dateness Law (H_6) predicts our passion for collecting, and the popularity of TV series such as *Antiques Roadshow*. Hipsters conformed to it when they salvaged accessories like the cheese cutter cap, the jute sack and the moustache from near oblivion. The portable radio, hip in the 1950s, now a relic of an outdated technology in the age of smartphone miniaturisation, is back too.

More and More Savants

The Quality and Up-to-Dateness Laws thwart cultural efficiency, in a way. With their demonstrated predilection for any kind of quality, style followers dilute their leadership's selective striving for specific quality. Followers are constantly stuffing the style system full of new and exhumed objects for the chains. The set $(X, \square)$ loses its phylogram properties because of the agency of style followers, which is why the style leadership is constantly busy removing these introduced inefficiencies from the style system.

Of the means available to style leaders (Table 11), their own *0/+ consumption* is not particularly suitable for this purpose because it is non-verbal communication, which can only be used to show. However, the style leadership must demonstrate the comparability of objects that are regarded as incomparable by style followers, just as it must demonstrate the incomparability of objects in chains. To that end, telling leads them more reliably to their goal than showing. Style followers act by sorting and showing, while style leaders also act by telling.

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length of the archaeological tree of a museum collection up to the present day would only give information about, for example, its importance for the culture of remembrance, or for research or funding. Instead, archaeological diversity is based on the idea of width in the historical dimension. It serves the interest of diversity of culture in the course of history. A measure of archaeological diversity is therefore the number of types/lineages (not specimens) from the same period (soil layer), as an indicator of the cultural diversity of the times. In Figure 4, the idea of archaeological diversity is represented by the *horizontal* perforated boxes that mark the antichains, with the timeline running from top to bottom. Archaeological diversity is the number of vertical branches/lineages at a given time. In Figure 4, initially diversity is therefore two up to the time of the first branching of the tree, then it is three up to the time of the second branching of the tree, and from there on to the present it is four. Typically, however, archaeological diversity increases over time and then decreases again. Arrowheads can be found in a series of soil layers, specimens as well as types, and they disappear again in younger layers. Insofar as the current width alone determines the present-day social distance of the productive consumer, only this width is relevant for QTC.

Intermediation Law (H_7): an intermediation industry proliferates in the style system.

Reacting to the flooding of the style system with objects, the style leadership theorises, intellectualises and idealises the world of objects. Style intermediation, supporting the style leadership in this endeavour, is a growth industry. Curators, advisors and critics tell style followers in magazines, books, TV and social media what they need to do to improve in their work in the sorting plant of culture. Efficiency-driven phylomania feeds an entire industry of savants who, backed by superior knowledge, instruct the workers in the sorting plant of culture. The *100 Secrets* (*of the Art World*) exist for everything. *De gustibus non est disputandum* remains an empty phrase that the intermediation industry constantly violates. In QTC, their obsession with teaching others is owing to their selfishness contained in the objective function (13), in combination with the options for action listed in Table 11. From the point of view of QTC, savants in literary quartets, cooking shows, feuilletons, etc. produce social distance and proximity for everyone, including themselves. They are listened to and followed because they have options for action that remain closed to most.

Phasing-Out of the Uniform

For objective function (13) and for a given diversity of a common style, DIV_c^c, the rooting, R_i^c, of an individual style in the common style is cultural waste that results in an individual's desire to eliminate it. Style followers contribute to this elimination by avoiding duplication. In Figure 6, for example, consumers i and j can reduce their rooting in the common style, R_i^c, without diminishing its diversity, if they no longer show E in their individual styles, leaving it for exclusive use to the individual style s_k. Whenever an object is shown in at least two individual styles of a common style, is it advantageous to abandon this object in all but one.

De-Uniformisation Law (H_8): every quality shown in a common style will eventually be shown in only one of its individual styles.

Hypothesis 8 predicts the proliferation of nuances in the world of objects. The tie belongs to the common style of bankers, but there are a thousand different variations of it. The black leather dress shoe belongs to it, but it is available in a thousand nuances. The long-sleeved, collared shirt belongs to it, but there are a thousand variations to choose from. The dark suit belongs to it, but it comes in a thousand variations. The gold watch belongs to it, but it comes in a thousand

versions. Their combination and recombination leaves billions of variations for individual bankers' styles, which together make up the appearance of a coherent common style. This wealth of variety finds its consumers. Where modernism had its stylistic beginnings in the uniformisation even of civilians, postmodernism takes its course in the rigorous de-uniformisation of the individual.

Jacques Tati, a film maker who cinematically satirised the times in which he lived, depicts this de-uniformisation in a scene in *Les Vacances de Monsieur Hulot* (1953). Two female members of a temporary elective affinity step out of neighbouring hotel rooms right at the same moment for a joint outing, but in identical summer dresses, eyeballing each other, only to disappear into their rooms again without saying a word.

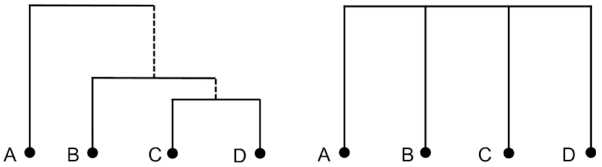
Polytomisation

For reasons of mere plausibility, phylograms in evolutionary biology always branch out in twos. When part of a reproductive community develops into a new species, for example through geographical separation, then what was one before becomes two (evolutionary dichotomy). This is because it is extremely implausible that three or more new species will emerge at the same time from a single reproductive community. In this implausible case a polytomy would have resulted – an evolutionary node with three or more branches leading further down. However, in cultural evolution this plausibility reasoning lacks justification. Polytomies are not only a possibility in culture, they are even likely. Style leadership ensures this.

Each length above a node can be part of a rooting of an individual style, because at least two objects are placed below it, which can therefore belong to different individual styles. Therefore, for a given non-ordered set of objects, X, the potential for rooting is reduced as the number of nodes in the vertical structure of the order decreases. Polytomies reduce the number of nodes compared to a phylogram. For a given non-ordered set, X, that vertical structure possesses the minimum number of nodes in which all elements of X originate from a single polytomy. This case is illustrated in Figure 10.

Based on objective function (13), style leadership has, *ceteris paribus*, an interest in ordering objects into polytomies. This reduces the number of nodes in the vertical structure of the world of objects and thus reduces possibilities for the rooting of individual styles in their common style.

Figure 10: Polytomisation.



The phylogram of four objects, with its dashed lengths, offers two possibilities for rooting (if C and D belong to two different individual styles and/or if B belongs to a different individual style from C or D). The same objects arranged as a polytomy (right) offer no possibility for rooting.

Polytomisation is coupled with a simplification of dissimilarity (as comparability). In Figure 10 on the right, in contrast to the left, all pairs of objects are equally dissimilar in their bilateral lengths. Differences between pairs of objects, defined as lengths, converge by means of polytomisation. In the borderline case where the order of a given set *X* is a polytomy (Figure 10, right side), all pairwise quality differences are the same. A set of objects *X* ordered in a polytomy can therefore also be thought of as 'minutes' ordered on a clock face: with the number of 'minutes' equal to the number of objects in set *X* and with identical distances between all adjacent 'minutes'.[10]

The incentive of the style leadership to reduce the complexity of the vertical structure by means of polytomisation substantiates the following hypothesis:

> Polytomisation Law (H_9): dissimilarities (as comparability) converge in the world of objects.

This is why the history of elective affinities is exponentially disappearing from the curricula of the style followers. The idea of the sanguine phylogram of European nobility lists does not echo in postmodernism. While the elective affinity of start-up capitalism reveres Steve Jobs as its founding father, each member is regarded as equally related to him with the individual style of their venture. Elective affinities increasingly become identically kindred 'bee colonies'.

10 In chapter 9, I will return to the clock face analogy regarding the orthodox modelling of product differentiation.

Nucleation

According to (10), shared peripheries, P_{hk}, of two common styles, S_h and S_k, increase, *ceteris paribus*, social distance in a style system with three or more elective affinities, if they arise from new objects not previously found in the style system. A style leadership will therefore not seek to prevent its followers from incorporating new objects into the common style simultaneously with another elective affinity, i.e. the Saysian Quality Law does not spare style peripheries. This way, peripheries arise of jointly displayed objects in different common styles, which interweave with each other in this sense. Figure 8 is an example of such an interweaving. Formula (10) predicts the occasional mass proliferation of new objects in the style system. Fads thus develop into style-crossing trends – hair gets longer, skirts shorter, pants tighter, not just in a single common style. But there is always at least one common style that resists this style-crossing trend.

As soon as new objects have entered the style system, the style leadership has a limited incentive to eliminate peripheries by transferring their objects into a style nucleus. In Figure 8, for example, the periphery is eliminated when both common styles abandon the respective other object in their shared periphery. Each of these disentanglements has the same effect on social distances in the style system as the introduction of a new object into just one common style, and thus into its style nucleus. Therefore, according to (9), the social distance of a common style towards the social whole is increased. However, the abandonment of an object from a periphery of a common style must be brought about by the abandonment of that object in all of its individual styles, that showed it so far. Consequently, this unbundling also reduces individuality in the elective affinity. When unbundling the common styles, style leaders must therefore observe a trade-off: social distance between elective affinities increases, but individuality in at least one common style decreases. The general effect of unbundling on happiness/utility (13) is therefore indeterminate. Given a sufficient concavity (14) of objective function (13), with a minimum number of objects in the shared periphery of two common styles, such a disentanglement is also in the overall interest of that elective affinity, which completely abandons an object. However, if the number of common style objects is sufficiently small, unbundling is unfavourable for at least one member of the elective affinity, as lost happiness/utility from loss of individuality exceeds the utility gain from increase in social distance. For example, according to (1), if there are only two objects in a common style, the abandonment of one would result in the complete loss of individuality in the common style. This motivates the following hypothesis.

> Nucleation Law (H_{10}): if the number of objects in a common style exceeds a critical number, it also contains a nucleus.

In conjunction with H_5 (Quality Law), H_{10} predicts the proliferation of common styles in the style system, which show objects not shown anywhere else. Increasingly more common styles, so the prediction goes, have such a stylistic fingerprint. This prediction does not contradict H_8 (De-uniformisation Law). In the long run, so the prediction from H_8 and H_{10} goes, only the banker (and his peers) will always show some variation of the suit and tie (originally from Savile Row), and the rest will never do so again.

It should be noted that until now, from the QTC perspective, nucleation is not a means for eliminating information asymmetries. It is therefore not signalling. The loss of individuality from nucleation therefore is not a signalling cost. From the point of view of information economics, work in the sorting plant of culture is always perfect. Nucleation is owed solely to the interest in broadening social distance, while taking into account its effect on social proximity.[11]

Charisma of Style Leadership

At all times, a 'crystallised history' exists as the valid operating manual, $\square$, for the work in the sorting plant of culture. Experimentation in the do-it-yourself (DIY) technique by style followers, together with industrial innovation, modifies the non-ordered world of objects, X. This leads to constantly new inefficiencies: at any given time, there is pressure to offset cultural efficiency out of the interplay of a changing world of objects and culture as 'crystallised history'. The style leadership counteracts this pressure. Culture as a dynamic institution, as 'crystallised history with a melting edge', receives its evolutionary impulses, H_1 - H_{10}, from human agency.

Cultural selection is based on a potency of the style leadership that has not yet been addressed. Style leadership must be able to successfully counteract the pressure of randomness, of the opportunism of style followers and industry, and the cultural inefficiency that results from it. This capacity of style leadership is the only reason a consumer would want to follow it in the first place. Only leadership that gives its followers the benefit of leadership is worth following. Style leadership offers this benefit in the currency of efficiency of work done in the sorting plant of culture. This is the charisma of style leadership. That's the only

11 In chapter 10 QTC is further developed with regard to information economics.

reason it has any followers. What this charisma achieves for society is the topic of the next chapter.