

Chapter 7

Social Evolution

“Consumption [...] actually does crucial social work, not only sustaining human lives and social institutions but also shaping interpersonal relations.”

*Viviane Zelizer*¹

“For us historians, a structure [...] is a reality which time uses and abuses over long periods.”

*Fernand Braudel*²

“How do we begin coveting, Clarice? [...] We begin by coveting what we see every day.”

*Dr. Hannibal Lecter addressing Clarice Starling in
The Silence of the Lambs*

The consumers' objective in the social sphere is a driving force of cultural order. From its specification (13) and the agency of style leadership and their followers (Tables 8 and 11), hypotheses $H_1 - H_{10}$ were derived as vector components of cultural selection. With culture, understood as a selection process that changes the consumers' choice space, consumption itself becomes a process that changes the social. This evolution of the social, driven by cultural selection, is the topic of this chapter.

¹ Zelizer 2005, p. 348.

² Braudel 2011 (1980), p. 368.

Opening of the Closed Society

Given objective function (13) and given the allocation of the world of objects to a given number n of elective affinities, according to formula (1), the individuality in an elective affinity grows along with the number of its members, m . At the same time, for a given allocation of objects to the common styles, the distance of each elective affinity to the social whole remains the same. It is therefore in the interest of all elective affinities to recruit new members at the expense of other elective affinities, and to dress them up with a subset of their own common style. Competition for members is part of postmodernist 'business'. This motivates the following hypothesis.

Competition (H_{11}): elective affinities compete for members.

A follow-up prediction of H_{11} is the disappearance of the closed society. As a relic of resource-driven modernism, it may have found its way into postmodernism in the form of exclusive yacht and polo clubs. But the logic of postmodernism's interests, condensed in the objective function (13), is making it disappear. The desire for individuality within the club fosters the interest in new members and thus in opening up the club. It is not operating costs that force them to open up, but the members' interest in sublimating their individuality lets them open up. In the 1960s, the tennis club was exclusive, today it is an ordinary club, just as golf has become an ordinary sport. Polo is still exclusive today.

Equalisation of Individuality and Happiness

A follow-up hypothesis from H_9 (Polytomisation Law) is:

Equalisation (H_{12}): within elective affinities, members' individuality and happiness converge.

H_{12} does not predict the vanishing of individuality. Members become more and more individual by phasing out the uniform (H_8). However, through polytomisation the rooting of individual styles in the common style, R_f^c , fades out. Hence, according to formula (1), individuality of all members of the elective affinity converges towards $(m - 1) \cdot DIV_c^c$. Because social distance of all members of the elective affinity to the social whole, D_h , is the same, happiness/utility of all members converge at a high level.

H_{12} is an irony in the transition from modernism to postmodernism: To the extent that (resource) endowment as a determinant of the social structure loses clout, and volition (to join an elective affinity) wins clout, happiness/utility converges in the elective affinity. Although there, egoism in the form of the drive for individuality has found its most extreme form. The egoism/altruism obsolescence elaborated in Chapter 5 manifests itself in equality of happiness/utility.

Passion for collecting is an example of this. The leadership of the contemporary art collectors' community portrays contemporary art less and less as a complicated tree with ramification upon ramification, or as being comparable to, say, the Renaissance. The styles of art history and of contemporary art are conveyed less and less as interconnected in layers (H_9). This is a symptom of the general equalisation brought about by the manipulations of social proximity by the style leadership. There is a tendency for all individual (collecting) styles to be understood as equally nested in their common style, making a differentiated search for (art-historic) traces by followers redundant. The collector of media art is indistinguishably united with the collector of punk art and that of Dutch still lifes, within the elective affinity of art collectors.

Through polytomisation, elective affinities become egalitarian affirmation communities: everyone tends to confirm everyone else the same (but not the identical) embedding in their joint elective affinity. From QTC's point of view, equalisation within elective affinities is not due to the game-theoretical exit option of its members (whoever can walk away must be treated well!), but to the agency of style leadership. Equalisation removes rootings in the common style that are detrimental to achieving goals.

Destabilisation of Elective Affinities

Why do new elective affinities emerge? Where does the variety in common styles come from? According to formula (8), the distance of an elective affinity to the social whole stays constant, as long as the total number of objects in the nuclei of the style system stays constant. A reallocation of these objects into more nuclei, i.e. more elective affinities, leaves the distance to the social whole constant. This is shown in the example of Figure 8. Out of an interest in social distance alone, an incumbent elective affinity would thus be indifferent to such a reallocation by the founding of new elective affinities. However, social start-ups are dependent on members and these can only be recruited from incumbent elective affinities. Only those incumbents are indifferent to start-ups whose members do not run away to a new elective affinity. Because the loss of members is at the expense of

individuality within the elective affinity. Competition (H_{11}) therefore includes competition between incumbent and start-up elective affinities. Given consumer sovereignty (entry and exit option), a member will switch affinities if this increases their happiness/utility (13). The style leadership of incumbent elective affinities will therefore seek to shape the style system, in such a way that there is no individual incentive to switch to new social start-ups.

What are the individual incentives to join a new elective affinity? The smaller it is in the beginning the less individuality can be found in it. The sheer size of incumbent elective affinities thus offers protection against new competition. The mainstream is stable because it is large. However, this only applies, *ceteris paribus*, to the individual exit option: isolated disloyalty in the style system is rare, but mass exodus is not. This leads to:

Destabilisation (H_{13}): incumbent elective affinities are threatened by mass exodus.

H_{13} resembles bank run logic: the banking system becomes non-liquid when everyone believes it will become non-liquid, and therefore everyone wants to withdraw their money at once. In the style system, members resign from their elective affinity when everyone believes in the resignation of many others. The protective interest in their own individuality is the motivation for this. H_{13} opens the style system to elective affinities that rise like a phoenix from the ashes, only to descend there again sooner or later: for rehashed fashions that find a mass following and are again quickly forgotten, for trends that disappear as quickly as they appeared, for an industry whose business model is based on trend scouting and speed.

QTC thereby provides an alternative interpretation of the snob effect in fashion, jumping from a crowded stylistic train, and of the bandwagon effect, jumping onto a new, yet near-empty stylistic train. The orthodoxy offers theories of fashion in which both effects alternate deterministically in a wave-like manner. The fate of every fashion trend is thus already predetermined *ex ante*, and it takes arbitrary assumptions about consumer myopia or the market power of the industry, to conjure up demand for a fashion that is already doomed. QTC contrasts this orthodox view with a probabilistic model in which common styles are more or less exposed to the risk of mass exodus (snob effect), depending on their qualitative properties. New common styles are then more or less likely to receive mass influx (bandwagon effect) from the incumbent styles, depending on the very same properties of those styles.

Social Cellular Division

But what is the incentive for innovators to build a new elective affinity? It is the chance of increasing social distance in the style system. The presence of peripheries offers this opportunity. The example of Figure 8 showed that removing elements from the nucleus of a style with a periphery and combining them as the nucleus of a new common style, produces new distance to the social whole, greater than the (unchanged) distance to the social whole of the incumbent style. The reason for this is that a shared periphery shortens the bilateral social distance between two styles. With this legacy the new style is not burdened in the style system of constant width. Common styles with no periphery, in contrast to those with a periphery, make use of the entire width of the world of objects, opened up by culture. Exiting an elective affinity which has a style periphery thus offers a distancing benefit which runs contrary to a (perhaps initial) loss of individuality. In that trade-off of objective function (13), a social start-up may therefore be to the overall benefit of innovators. This leads to:

Cellular Division (H_{14}): common styles with (large) peripheries are breeding grounds for new elective affinities.

Social cellular division is dependent on a cultural condition. The agency of innovators as style leaders must be so potent that it can prescribe a shortened 'hair-cut', in such a way that a new common style is created.³ Technically, this requires a suitable reduction of the maximum rank distance for the *entire* style system (which in Figure 5 corresponds to a shortening of distance d_K towards the base of the cladogram).

This underlines two things. First, culturally, social cellular division is no triviality. It requires innovators to be able to manipulate the entire style system. By this demanding requirement, culture protects the social sphere from excessive cellular division. And secondly, a smaller maximum rank distance results in a more filigree structure of the entire clustering. However, social cellular division tends to reduce individuality in the style system, because the average number of members of elective affinities decreases. The social sphere thus also protects itself from excessive cellular division. The cultural and the social spheres work here hand-in-hand.

3 Social cellular division thus corresponds to speciation in evolutionary biology, the emergence of a new reproductive community.

Societal Structuring

Cellular division in the whole of the style system provokes two opposing effects: if peripheries exist, it heightens social distance in the system; and for a given number of members of society, it lowers individuality in the system. The agency of style leadership tends to balance out the two effects in the overall interest of objective function (13). Where this balance lies depends on the slope properties (14) of the objective function and thus on a fundamental property of the society. It can be more or less individualistic. The more individualistic a society is, the slower marginal utility of individuality declines and the more important social proximity is for happiness/utility. This leads to:

Societal Structuring (H_{15}): more individualistic societies have fewer, but bigger elective affinities; less individualistic ones have more, but smaller elective affinities.

H_{15} is quite intuitive. The greater the marginal contribution of one's own individuality to happiness/utility, the greater the marginal contribution of other comparable individuals to it, and greater the incentive to join a big elective affinity. Conversely, the greater the marginal contribution of social distance to happiness/utility, the smaller the incentive to join a large elective affinity. Less individualistic societies thus show a postmodern social structure with many small, strongly separated social groups with little individuality inside. More individualistic societies show a social structure with few large groups possessing a high level of internal diversity. The mainstream thus turns out to be the programmatic group of Western individualistic society.

The Old with the Old - The New with the New

What can the style leadership of incumbent elective affinities do against the risks of H_{13} and H_{14} ? To prevent innovators from exiting and taking objects from the nucleus of the common style with them, there is a simple countermeasure: just keep showing these objects in the incumbent style. They are then moved to a newly-formed periphery, which the incumbent common style now shares with the start-up style. Individuality in the incumbent style only decreases as the number of members decreases, m , but not also by the decrease in diversity, DIV_c^c . This is successful only to a certain extent at limiting the damage the incumbent style has incurred. But it damages the happiness/utility of the start-up founders, in that they suffer a loss in terms of the elusive new distance to the

social whole. Because, instead of a new common style devoid of a periphery, they now get one with a periphery shared by their former elective affinity. Whether their distance to the social whole increases or decreases, depends on whether the new style periphery contains more or less elements than all pre-existing peripheries of the incumbent elective affinity. If it contains less, the distance to the social whole still increases. If it contains more, it is not worthwhile initiating the start-up.

Smart innovators will anticipate this. They can improve the chance for a positive distancing effect of their start-up by keeping their new common style sparse in terms of qualities shown. The Bauhaus made its mark with such aesthetic austerity *vis-à-vis* the styles it sought to overcome. Adolf Loos' polemic *Ornament und Verbrechen* against the Viennese style of his time also aimed at precisely that.⁴ However, this austerity comes at the expense of individuality, and innovators must counter this by adopting only moderate stylistic austerity in their start-up. This is the downside of founding a new elective affinity by taking and recombining objects from already established styles (bricolage). Start-ups using *new* objects do not carry this risk, which is why DIY in the world of things is typical for new elective affinities. That is why craftsmanship and the new things thus created were so formative for the Bauhaus and Adolf Loos. This leads to:

Openness to the New (H_{16}): new elective affinities are more open to new objects than old ones.

With the new style made of new objects, the incumbent elective affinities also gain social distance. This inhibits their incentive to also include the new objects in their common style. Because if this were to happen, the additional distance the new style offers would again be compromised by increasing the shared periphery. Start-ups of elective affinities showing newly-invented objects are therefore particularly promising, with the incumbent elective affinities tending to give these new things the cold shoulder.

In this sense, new elective affinities are 'more modern' than old ones. Not because they are new *per se*, but because they show more new objects than the incumbent styles, and are therefore a better bet for greater distance in the social whole. The bet is that incumbent elective affinities will stick to their old objects but will also stay away from the new ones. The nuclei in the style system thus tend to wear vintage markers. People who gathered in the 1950s around rock 'n' roll

4 Stuiber 2012.

tend to keep its stylistic fingerprint and grow old with it. People who invent a new style today do not remain innovative but stay true to it.

Vintage thus becomes the trademark of social groups. This also has impact on the functioning of industry. The worst advice that trend scouts can follow is to look for the new in the very people in whom they have already made a find. Trend scouting is more of a localised business than personalised business; the emphasis is more on hotspots of style innovation than the persons of style innovation.

End of History

Addressing start-ups, H_{16} dynamically complements the incentive of incumbent elective affinities in nucleation (H_{10}). However, the downside risk of H_{13} and H_{14} also motivates incumbents to downsize their periphery *prophylactically*, by way of their own austerity. This is because cleaning up one's own peripheries by dispensing with their objects reduces the members' incentive to resign, and start or join a new group. Style peripheries begin to disappear in the whole style system. Common styles are becoming more and more distinct from each other. But in a style system devoid of any peripheries, (8') applies and the distance to the social whole is the same for all elective affinities. Social differentiation by means of new elective affinities then has completely lost its distancing capacity, and only its individuality-reducing effect remains. New elective affinities cease to form. This leads to:

Slackening (H_{17}): the fewer objects shared in the style system by elective affinities, the weaker the further group-wise branching of society.

H_{17} predicts the end of the history of postmodernism. When the world of objects, X , has been completely absorbed by the nuclei of the style system, there no longer exists any incentive for the further horizontal differentiation of society. While style leadership continues to improve the efficiency of culture, in the end all groups are equally distanced (8'). It is precisely this beneficial contribution of style leadership that brings the history of postmodernism to its own natural end. The Saysian Quality Law (H_5) still holds, but new objects simply enrich particular, already established common styles. From then onwards, postmodernism has lost its organic dynamics (and romantic fascination). Style leadership brings social evolution to a standstill by the very means with which it fires it up.

At the end of postmodernism, people differ only as individuals within otherwise equivalent elective affinities. That is why everyone strives for that elective affinity that offers the most individuality. This is, *ceteris paribus*, the one with the largest number of members, m , and, *ceteris paribus*, the one with the weakest rooting, R_i^c , of the individual style. The risk of mass exodus (H_{13}) grows. For no one will stay in an elective affinity because of the social distance it confers. The size of the elective affinities, m , has converged, the phylogram of the world of objects has become a polytomy, and rootings have disappeared. Only by following this path does an elective affinity have any chance of surviving. As a follow-up hypothesis, H_{17} also predicts, for a style system with z consumers, size $m = z/n$ of all elective affinities. Together with vanished rootings and peripheries, this lets everyone have the same degree of individuality, the same distance to the social whole and the same happiness/utility. The economy (human agency) has then not only brought about full efficiency of culture, but also the perfect equality of people in all their self-created diversity – in a social sphere full of social distance and proximity.

Towards the end of postmodern history, culture also ceases to be a process. Cultural selection is slackening. New operating instructions for the sorting plant of culture are no longer needed. Style leadership is without a purpose and has lost its charisma. There's only one last directive to follow: to arrange each new object somewhere in the polytomy. A dice roll, assigning each new object to an elective affinity, can do this job. Differences in happiness/utility are only coincidental and temporary. Such is the convergent future of the productive consumer in the long run. It remains utopian.

Utopia and Disruption

But in the long run a lot will be different. Or, according to historian Fernand Braudel, by then the structure, in our case that of the style system, will have been used and abused time and again. Analytically, QTC is therefore most productive in the interim, after unpredictable disruptions and before the next ones, which are just as unpredictable. This is a time period in which the cultural order types (singleton, chain, phylogram, polytomy) are still in competition, where the rooting of individual styles in the common styles is not yet the exception, and where shared peripheries are still commonplace. The investigation of the style system in that state and in the light of cultural selection, i.e. by taking culture still as a process, is the topic of what follows later on. Beforehand, however, it is worthwhile identifying points of entry for distortions in the long-term model outlined

above. What disruptions can there be in QTC? What causes the failure of the social project of the end of postmodernist history?

Charisma: one point of entry for disruptions is the charisma of style leadership. QTC abstracts from charisma costs: manipulation of culture is costless for style leaders, just as their followers have no costs to bear when working in the sorting plant. But it is an open question how the convergence towards the end of postmodern history will affect the ratio of charisma/sorting costs. Sorting costs are lower the simpler the operating instructions for the sorting plant are. And these become ever simpler towards the end of history, just as access to the plant becomes increasingly easy: everyone's opinions are more and more sought after. At the same time, the de-intellectualisation of the world of objects that goes hand in hand with polytomisation also reduces the charisma costs. The phylogram is already easier to convey than a convolution of singletons, chains and trees; the polytomy easier than the phylogram, individual styles are diminishingly rooted and peripheries become rarer and smaller. The costs for the establishment of style leadership are therefore decreasing. This is why new style leaders are becoming increasingly involved. The market for style leadership is booming with falling charisma costs. The human capital of curators, museum directors, professors, editors, columnists, collectors and conductors – accumulated at high costs in terms of time or money – is increasingly supplemented by the human capital of bloggers, vloggers, whistle-blowers and gurus. This is the breeding ground for charismatic disruption. Unconventional people push themselves into style leadership offering different ideas about the ordering of the world of objects: Baudelaire, Kandinsky, Duchamp, Hayek, Jobs, Musk. On both large and small scales: Hayek's *Swatch* and Musk's *Tesla*; Baudelaire's *anti-aesthetics* and Duchamp's *Readymades*.

Objects: written language, the letterpress, the pill, the smartphone and social media have all disrupted the existing order to the extent that they have broken up the formerly closed coterie of style leadership. Written language allowed for asynchronous communication and thus reduced costs for style leadership. Just as the letterpress has facilitated mass followings, and allowed the dissemination of taboo-breaking operating instructions for the sorting plant more quickly and comprehensively. The pill and other emancipatory devices helped women attain style leadership, and thus provided the sorting plant with instructions that had previously been withheld. The smartphone and social media lowered communication costs, and brought new competition to the established style leadership that was still working with expensive analogue media. The battle between the automotive and IT industries for supremacy over the driving experience is a battle

for the proper operating instructions for the sorting plant of culture. Which feature vector for ranking the driving experience will win out?

Politics: emancipation from the ruling powers, their retreat, loss of ideological orientation, political taboo breaking and migration create cultural distortions inasmuch as they destroy the trust of followers in the familiar operating manuals of culture. The fall of the Iron Curtain, the Arab Spring, Brexit, terrorism, 'America first!', turn the ordered world of objects upside-down – the good and the bad, the progressive and the backward, the beautiful and the ugly. The headscarf loses its Western meaning of female industriousness, the backpack becomes a potential weapon, the male hair parting a joke, and the monthly ticket for public transport becomes a migrant pass. The style system no longer develops smoothly, and instead entire elective affinity constellations become unstable.

As exogenous shocks, such disruptions, which are often complementary, prevent the end of the history of postmodernism. They ensure that cultural order types remain manifold and the order of the world of objects stays segmented and complex. They ensure that culture as a process is ongoing. Disruption preserves QTC as a bio-economic and medium-term theory of style.

A Variegated World and the Silence of the Orthodoxy

Inspired by classical mechanics and astronomy, the orthodoxy fails to predict the colourfulness of the world. It does not even notice it. Instead, it presents grey on grey as its prediction of what the world will be like. In the orthodoxy, when variegation is the result of analysis, it is only because it has already been introduced by assumptions or entirely by chance. By contrast, in QTC, the starting conditions for all consumers are the same and they all resemble each other at the beginning like peas in a pod. You can think of the starting conditions of postmodernism, as modelled in QTC, as a perfectly aligned North Korea. Everyone is identically endowed and everyone wants exactly the same things – and still the world becomes colourful, without everyone wanting variegation *per se*.

Lancaster's orthodox *product differentiation*⁵, using the clock face of qualities, is an example of the exogenous preferences of consumer society: each individual is assumed to prefer a different quality right from the start. The remainder of the prediction (the number of minutes, i.e. objects, on the clock face and their uniform distribution on it) is solely based on the cost and market structure of industry. With polytomisation (Figure 10) QTC also predicts this uniform distribution

5 Lancaster 1975.

of qualities on the product circle. But not by packing consumer preferences for different qualities into the model by assumption. In QTC variegation is endogenous.

Gary Becker's orthodox modelling of *habits* and *addiction*⁶ allows for people to have different experiences by chance, which influence their later consumer behaviour in different ways, making them become smokers and non-smokers, drinkers and teetotallers, phlegmatics and adrenaline junkies. What comes out in the end as variegation in the world is the result of pure coincidence at the start (with systematic subsequent effects). George Akerlof's and Rachel Kranton's equally orthodox *Identity Economics*⁷ allows people with different resource endowments to choose between different identities. Here variegation is assumed in the model twice: first, as exogenous differences in resource endowment, and second, as an exogenously available set of different identities that can be freely picked, much like shampoo from the supermarket shelf. In QTC, the collective identity (social distance) granted by elective affinities is endogenous, as are the individual identities (proximity) in it and the number of alternative elective affinities. An initial assumption of differences between consumers is not needed.

In this respect QTC is fundamentally different from the orthodoxy. It predicts the variegation of the world instead of simply assuming it. This establishes as the most fundamental prediction of QTC:

Variegation of the World (H_{18}): otherwise identical individuals differ in their o/+consumption.

Why does the orthodoxy remain blindfolded to the endogeneity of the variegation of the world? Its paradigmatic fixation, on upbringing, on quantities, prices, and endowments with quantities allows the orthodoxy to favour analytically what it already sees, *a priori*, day by day: quantities, prices and endowments. The orthodoxy remains trapped in its paradigms. *A posteriori*, however, the variegation of the world calls for a paradigm shift. o/+consumption and the *productive consumer* are just such a paradigm shift, which allows the variegation of the world to be predicted, and what is economically special about postmodernism to be understood.

6 Becker 1992.

7 Akerlof and Kranton 2010.

Variegation in Nature and Culture

Up to here, several similarities and differences in the variegation of nature and culture have been identified. *Grosso modo* they nourished the hope that biodiversity might be a good starting point for understanding the variegation of the world of objects. However, the biological model could not be adopted one-to-one, but had to be adapted to the particulars of culture. This adaptation has modified the phylogram – the diagram of diversity from the point of view of evolutionary biology – step-by-step. The intuited differences between nature and culture could thus be refined in terms of dissimilarity and diversity theory. In the resulting QTC, however, these differences have not proved so great that further endeavours within cultural studies to learn from biology would be a futile effort. The following considerations are further cases in point.

It would be wrong to assume that cultural diversity can be or even has to be thought of in ways different from biology *merely* because of the anthropocentrism of cultural studies, whereas biodiversity is what it is, and therefore in biology one is always measuring the same thing (albeit with different methods). Indeed, there exist also different concepts of biodiversity.⁸ They are: *species richness* – in the survey area the number of species is determined; the greater the number, the greater the diversity. *Endemism* – in the survey area only those species that do not exist elsewhere are counted; the greater the number, the greater the endemism. *Disparity* – biodiversity is mapped in phylograms or cladograms; the concept from which I started the analysis. *Functional diversity* – species differ in their contribution to an ecosystem function, or they do not; the more ecosystem functions species assume in the survey area, the greater the diversity. *Ecosystem diversity* – identical/similar ecosystems are grouped together; the greater the number of different ecosystems in the survey area, the greater the diversity. *Intraspecies diversity* – the greater the number of different alleles in the DNA of a species, the more diverse it is.

Cultural studies thus do not stand alone against the challenge of multiple, competing diversity concepts. Against this background, the choice of a diversity concept in QTC must not be judged as right or wrong, but rather by the extent to which it serves an epistemological interest. As it is with biodiversity: a diversity concept “must be considered as telling the [...] story that best fits the diversity *observed*, but not necessarily as telling the ‘true’ story.”⁹ In QTC the *observed* diversity is that observed by the productive consumer. An empirical assessment of

8 Gaston 1994.

9 D’Arnoldi, Foulley and Ollivier 1998, p. 159. (my emphasis).

cultural diversity cannot therefore be carried out *ex cathedra*, but must assess diversity as consumers see it. But if you accept the productive consumer as the defining authority for cultural diversity, you can expect the number of alternative concepts to be greater than in biodiversity. For example, if even in a given style the *picture* is something quite different depending on the media used, such as in painting and literature,¹⁰ there are only far-flung limits (if any) to the conceptualisation of cultural diversity.

Nor would it be of much help distinguishing biological and cultural diversity along anthropocentric lines, i.e. suggesting that cultural diversity always serves human interests, but biodiversity does not. In fact, there is always a human interest also in biodiversity concepts.¹¹ Respect for creation is itself one.¹² Depending on your interests, different concepts of diversity force themselves upon you, and biological as well as cultural diversity are subject to some anthropocentric bias or another. In this sense both are normative theories: how should diversity be seen in terms of a given human interest and in what respect should it change or remain the same? One is the interest in social distance and proximity. Here QTC remains firmly anchored in neoclassical economics, saying that the relevant diversity is that which gives the individual its social distance and proximity. Emic fit is the criterion for the conceptualisation of cultural diversity.

Biodiversity concepts are often based on indirect interests, i.e. those beyond the conservation interest *per se*: for example, genetic disparity in the indirect interest of ecosystem resilience or of genetic engineering, or intraspecies diversity in the indirect interest of survival probability of a species or of breeding success. In much the same way, the interest in cultural diversity is indirect: vernacular diversity in the indirect interest of regional identity; literature and film diversity in the indirect interest of national identity; media diversity in the indirect interest of democracy. QTC also postulates consumers' indirect interest in diversity. They strive for stylistic diversity only to satisfy their preference for social distance and proximity. But indirect interests open the door to different definitions of diversity. "There is no unique measure of diversity, and unless we know how and why diversity gives rise to *inherent* value it is not at all clear how we should operationalise the concept."¹³ The operationalisation proposed in QTC has been developed from consumption activity and the basic idea of the object as a thing/behaviour with a culturally determined meaning.

10 Dundas 1979.

11 Sarr, Goeschl and Swanson 2008.

12 Perry 2010.

13 Mainwaring 2001, p. 85 (my emphasis).

Even if biologists agreed on a concept of biodiversity or accepted it as a convention, for example the cladogram, there would still be a degree of freedom in modelling in as much as there are always different possible ways to order a given set of species in it. The same degree of freedom also exists in the ordering of cultural objects. The two cladograms of Titian's oeuvre in Figure 3 are a case in point. This degree of freedom is a problem for biology, because cladograms cannot be scientifically falsified; a preference for one of several theoretically possible cladograms cannot be scientifically justified.¹⁴ In contrast, the scientifically relevant order of the world of objects is that of the productive consumer, regardless of which of *their* options they choose. Whether they adopt it in the sorting plant of culture by habit, or as a result of their own slow, 'analytical' thinking makes no difference.

Biodiversity theory and QTC face related analytical challenges. In particular, the shared problem of where exactly value resides: "Thus, after selecting for an appropriate currency (characters) and a particular evolutionary model that will predict the distribution of characters over cladograms and trees, the remaining consideration is to decide whether the greatest value resides within individual characters or in combinations of characters."¹⁵ In QTC, the feature value of the object is the 'currency', and the model is neither the phylogram nor the cladogram, but rather different yet similar geometric structures appropriate to the culture. The question of where value resides is answered exactly the same way as in biodiversity theory. Value resides in combinations of different feature values, not in the feature value itself. This basic premise makes *O/+consumption* the central focus.

In QTC, the value of the single object, of the individual style and of the common style can, in principle, be calculated. The value is its specific contribution to objective function (13), or else its contribution to the mapping of all individual goal achievements into a measure of collective welfare. Students of culture will exclaim at this point that diversity is not the only valid measure of the value of culture and that even that has various dimensions. They are in good company with biologists, who claim that biodiversity is not nature's sole gift; all of nature's services, including biodiversity, should ideally be weighted and then incorporated into a comprehensive measure of nature's gifts.¹⁶ QTC is to be understood in exactly the same way: as the specification of a particular diversity value of culture, which, weighted and combined with other diversity values and with non-

14 Vogt 2008.

15 Humphries, Williams and Vane-Wright 1995, p. 101.

16 Banzhaf and Boyd 2005.

diversity values, can be included, in principle, in an overall measure of culture's gifts.

Biodiversity as a scientific concept as well as QTC operate with both basic ideas of diversity: measured as length and as width. Biodiversity's *species richness*, *endemism*, *functional diversity* and *ecosystem diversity* are measured by counting. All these concepts operate on the idea of width as the fundamental rationale of diversity. In contrast, the biological concept of *species disparity* is based on the idea of length. The special characteristic of QTC is its combination of both basic ideas in a single model.

The lack of integration of interspecies diversity and intraspecies diversity has been criticised as an open question in biodiversity theory.¹⁷ Interspecies diversity compares between species what is shared by the specimens of a species, while intraspecies diversity illustrates what distinguishes the specimens of a species. Here again we have the analogy to the style system that was mentioned in chapter 2. Interspecies versus intraspecies diversity distinguishes between genes and alleles, QTC distinguishes between the common and the individual style. The common style results from the totality of individual styles in an elective affinity – just as the human species results from the totality of all specimens in its reproductive community. The lower level of individual styles corresponds to the lower level of specimens of the human being with different alleles, and the higher level of the common style corresponds to the higher level of the species. The common style is like a species, for example, the human being; the individual styles are like the specimen of a species, for example, an individual human being. And the style system with the variegation of its elective affinities is like the ecosystem with its richness of species.

Despite this analogy, there is a fundamental difference in the approaches to biodiversity and cultural diversity: reproductive communities are assessed by biologists (qua model assumption) for comparability, elective affinities of productive consumers (qua model assumption) for incomparability. In other words, interspecies diversity is measured as length, while in QTC the diversity of common styles is measured as width. In QTC, individual styles within an elective affinity are in a complementary relationship to each other. They promote diversity in the common style and thus elective affinity-wide individuality. The diversity-related complementarity of individual styles is, however, impaired by rooting. Substituting an individual style for another less rooted one is in the interests of diversity in the common style. It is precisely this effect that has also been postulated for biodiversity: intraspecies diversity will increase when a rooted subpopulation

17 Gaston 1994, p. 569.

is replaced by a less rooted one.¹⁸ The rooting of individual styles in the common style corresponds, by a further analogy, to the ‘within-subpopulation coancestry’ of intraspecies diversity theory.

QTC models a non-spatial society: the geography of elective affinities and the position of individuals in physical space do not matter. As a matter of fact, the striving for and attainment of identity does not only take place in the social but also in geographical space, in the milieus of cities, and in the countryside. Elective affinities flock together not only in spirit, but also in physical places. QTC abstracts from this potentially effectual side of diversity. The study of spatial aspects of biodiversity could therefore provide further impetus for the analysis of cultural diversity. Size (number of specimens of a species and geographical area of occurrence)¹⁹ and isolation/insularity²⁰ affect biodiversity. The size of elective affinities, their spatial distribution, and insularity/ghettoisation have already been dealt with in sociological and cultural studies, but their impact on and interaction with cultural and social diversity remains to be explored.

Keeping in mind these reservations from cultural studies towards the present model, but also the previously mentioned biological analogies, Part 3 will concern itself with clarifying to what extent contemporary phenomena can be predicted *and* understood with the help of QTC. To this end, I will abandon the formal analysis in favour of a more broadly reflective approach.

Gene(tics), Meme(tics), (Bio)semiotics, Human Being

Richard Dawkins, whose analogous comparison of DNA in nature and Chaucer’s *Canterbury Tales* helped motivate QTC, answers in his book *The Selfish Gene* the question of whether nature and culture might essentially be the same – with an unequivocal yes!²¹ According to Dawkins, genes do not serve the survival of the phenotype they produce (e.g. the human species), they merely use it as a host in the interest of their own replication, by jumping from body to body (e.g. via egg and sperm cells). It is not the species that is the unit of biological selection, but rather the gene! And what is the gene in nature, Dawkins continues, is the *meme* in culture. Dawkins’ neologism ‘meme’ refers to the smallest unit in culture that exists solely for the sake of its own replication and not that of its host (e.g. a body

18 Caballero and Toro 2002.

19 Whittaker, Willis and Field 2001.

20 Kadmon and Allouche 2007.

21 Dawkins 1989 (1976).

with a human mind). And accordingly, just as natural selection selects genes only, cultural selection selects memes and not their carriers. And just as genes 'want' to survive in a gene pool, memes 'want' to survive in a meme pool. Both genes and memes are found in a host organism and utilise it parasitically. A meme can be almost anything, according to Dawkins: a sound, melody, catchword, idea, garment, fashion, etc. For instance, a fashion 'seeks' to spread from body to body and an idea from brain/mind to brain/mind. The replication mechanism is imitation; a body imitates a fashion from another body and a brain imitates an idea from another brain. From these considerations, a veritable scientific school of thought has developed: memetics. In memetics, culture functions (almost exactly) like nature. Not surprisingly, memetics receives fierce criticism from scholars of culture, for example from semiotics, which I will address here, because it helps shed more light on QTC.

Semiotician Erkki Kilpinen claims the meme in memetics corresponds to the sign concept in semiotics and therefore is old (semiotic) wine in new (memetic) wineskins.²² Kilpinen argues that in its broader, dynamic variant, which can be traced back to Charles Saunders Peirce (and not to Ferdinand de Saussure), semiotics has always understood culture as an evolutionary pool of signs, in which signs produce signs and signs can only evolve from signs. Accordingly, the memes of memetics are nothing more than the signs of semiotics, albeit scientifically poorly founded. Kilpinen goes on to say that, unlike genetics and semiotics, memetics is a theory devoid of empirical substance. A gene is physical, it can be separated and cloned, but a meme is little more than the term invented by Dawkins for a model of culture that can only be spoken of *as if* it existed. In this model, memes convey information as genes and signs do, but in contrast to genes and signs one does not know what the information is about, nor to whom or what it is addressed. In short, memetics is removed from the real world. By contrast, semiotics, with its concept of the *productive object*, is considered to be grounded in a real-world environment. It deals precisely with how concrete objects 'produce' the signs that they themselves represent. Thus, according to semiotics, from the outside world of the human being a corresponding inside world emerges.

In memetics and semiotics two competing scientific currents clash – the naturalism of memetics and the culturalism of semiotics. Culturalism regards the human being as living not only in a physical world but also in a symbolic one, created and changed by symbolic expression. Whereas naturalism regards

22 Kilpinen 2008.

culture as being formed by natural (or at least nature-equivalent, for example memetic) forces and laws.

Naturalism and culturalism are united, however, on the question of what the human species has in common with other species and what is different from them, for example in the archaeological findings of tool usage. The difference between humans and chimpanzees or ravens is, in this shared view, not the presence or absence of culture (e.g. tool usage), but the complexity of species-specific culture.²³ Culture and nature are not the same in this view but are interwoven and even partially interdependent.

Biosemiotics, a cross-disciplinary bridge between traditional biology and traditional humanities, attempts to systematise this view. It builds on two premises. First, that all life forms (from unicellular organisms to humans) rely on both the ability to process signs from the environment relevant for survival into information, and the ability as part of that environment to produce such signs for other life forms. The second premise is that human sign production and processing (anthroposemiosis) is only a small and, in evolutionary terms, young part of the semiotic potential of all life. Biosemiotics thus closes the gap between biology and traditional semiotics, from whose standpoint semiotics is the “oxygen of biosemiotics”.²⁴

QTC is positioned within the cultural tradition of semiotics. The material, X , from which social distance and proximity are produced, consists of different but concrete things and behaviours from the real outside world. They are the ‘productive’ objects of semiotics. The values of feature vectors generated in the sorting plant of culture from the world of objects are themselves vectors of signs that ‘produce’ other signs in the form of individual and common styles. As signs, they then ‘produce’ signs of social distance and proximity in the inner world, which in turn ‘produce’ elective affinities as a model of the outside world and thus correspond to it. In QTC it is not the subsets of the world of objects belonging to the outside world, X , that are consumed. Instead, it is the model of the outside world that is consumed, which exists in the inner world and consists of signs of the segmented order, $(X, \square)$. From a semiotics perspective, the arguments of the objective function (13) are the final links in the chain of signs ‘produced’ by the world of objects, X .

The central difference between QTC on the one hand and genetics, memetics and semiotics on the other is the site of agency. Genetics and memetics are

23 For example Haidle, Bolus, Collard, Conard, Garofili, Lombard, Nowell, Tennie and Whiten 2015.

24 Favareau, Kull, Ostdiek, Maran, Westling, Copley, Stjernfelt, Anderson, Tonnessen and Wheeler 2017, p. 16.

positioned within the tradition of Actor Network Theory (ANT), in which genes and memes possess agency by virtue of their interest in replication. In genetics only genes have agency and in memetics only memes. The human being as the site of genes and memes (body cells, brain/mind) is in genetics and memetics merely a container devoid of agency. In contrast, QTC positions itself at the other analytical extreme by assuming only the human being, specified as style leaders and followers, possesses agency. The title of Part Two – *The Productive Consumer* – represents this idea of the site of agency, in which QTC fully subscribes to the economic orthodoxy.

In this respect QTC also differs from semiotics, which, by abstraction of signs/information from the sender/receiver, grants no agency to the human being. The human being as a species merely defines the scope of validity of the sign system studied (anthroposemiotics). Only objects and signs possess agency in their ability to ‘produce’ (other) signs (anthroposemiosis). For this reason, QTC is no sub-theory of (anthropo)semiotics in the sense of an economic theory of semiotics. But its reliance on semiotics while maintaining human agency makes it a ‘semiotic economics’ theory.

In semiotic economics, the site of agency shifts the source of style innovation from gene/meme/sign to the human being. In this view, the increasing variegation of the world is attributed to the fast and slow thinking and acting of style leaders and their followers, rather than to the self-replication urge of genes or memes or to the stylistic ‘productivity’ of objects and signs.

How the innovation process is conceived is another difference between genetics, memetics and semiotics on the one hand and QTC on the other. Semiotics remains silent on exactly how signs innovate – except arbitrarily *ex ante*. Signs ‘produce’ other signs, but not much more is said, except about how the new signs differ from the old ones and how they are built upon them. Semiotics is a non-predictive *ex post* science.²⁵

25 The beard in Russia, interpreted in semiotic terms by Lotman and Uspensky (1978), is an example of the simultaneous strength of comprehension and weakness of prediction in semiotics. Early on, according to them, the bushy beard was the sign of the Russian (old sign). Peter the Great's elegant French moustache (new sign) subsequently stood for the New Russia and made the bushy beard a sign of the Old Russia. Yet the new sign had become comprehensible only through the old sign. Without the old bushy beard, the new moustache could not have stood for modern Russia. The proposition of semiotics that (old) signs ‘produce’ (new) signs must be understood in the sense of this example. Semiotics thus comprehends the emergence of new signs *ex post* but cannot predict their emergence based on its knowledge of old signs. It comprehends that the new came from the old in such and such a way, but not that it will come from the old in such and

This is where memetics proves to be a more productive theory than semiotics. Yet, its premise that the dissemination of memes happens by imitation also remains a concurrent conceptual obstacle to understanding cultural innovation. However, on the upside, memetics examines nature's evolutionary processes and transfers them to culture as testable hypotheses. Memetics scholar Alex Mesoudi has outlined the following evolutionary-memetic processes.²⁶

Variation (modelled after genetic mutation and recombination in sexual reproduction): examples of cultural mutation are the copying errors in the *Canterbury Tales*, which produced about 80 still-existing versions of the text. An example for recombination in style is the bricolage process in clothing fashion, for example in the hipster style.

Inheritance (modelled after Mendelian inheritance): an example is the emergence of the present-day book from continuous revisions of the manuscript. As in nature, a distinction is made between vertical inheritance (passed from parents to children) and horizontal inheritance (via parasitic invasion). The art and design styles preserved over time in academies such as the Bauhaus or in places like Florence during the Renaissance are memes replicated via vertical inheritance. An abstract memetic example in QTC of horizontal inheritance is the expansion of the periphery of a common style by incorporating an object from another common style into a member's individual style. The trivialisation of art in kitsch is a practical example of horizontal inheritance. The archaic style in painting and sculpture that emerged during the Upper Palaeolithic revolution and is still practised today is a meme that has been inherited not only vertically but also horizontally, for example by Picasso, inspired by the photographs of the Lascaux find. In contrast, the early medieval knight fighting a lion is a meme vertically inherited from ancient Rome (gladiator fights).

Selection (modelled after Darwinian selection): the cultural selection laws H_1 – H_{10} in chapter 6, derived from the objective function (13), all belong to this category. In QTC, cultural efficiency is the counterpart to Darwinian fitness. It selects in favour of this efficiency: the hypotheses on social evolution, H_{11} – H_{17} , result from the selective effect of the objective function (13). Historical examples of cultural selection are diachronic yet systematic changes in a style, for example

such a way! For example, if Peter the Great had opted for a clean-shaven face instead of the elegant moustache, the old sign would have 'produced' a completely different new sign with the same meaning. This systematic arbitrariness of signs, already ascertained by Ferdinand de Saussure, brings human agency back into the semiotic game, and not only in the case of Peter the Great.

26 Mesoudi 2017.

the emergence of the arabesque from the geometry of lotus blossom and palm leaf, or the modification of the lily ornament in France between the 12th and 18th centuries.

Drift (modelled after natural drift in small populations as a random generator of the frequency of alleles): a memetic example would be the random disappearance of an ethnic group from an urban milieu. In QTC, the random retirement of a member from a (small) elective affinity with a corresponding decline in the individuality of the remaining members would be a case of cultural drift. Crafts threatened with extinction are memes affected by cultural drift.

Migration (modelled after gene flow): migratory flight, bringing with it cultural attributes, but also travel and tourism are memetic examples. The cheetah-like predatory cat in the Western European medieval *Hom* motif is a meme that came from Asia via intercontinental contact. Historical Sicily owes its Roman, Byzantine, Moorish, Frankish, Norman and Spanish inspired style to such a flow of memes, as does Western Europe's contemporary pyjama style. Holiday souvenirs and the influx of international cuisine are probably the most common cases of meme flow. Beau Brummel's appearance in elite London society during the Regency period was a meme flow across social boundaries. The gentleman meme, on the other hand, is likely to have also spread as a result of physical mobility in 18th century England.

As shown by these examples from Part One, memetic processes are accommodated in QTC. They can be divided into two groups: the disruptive processes that repeatedly throw evolution off-track towards cultural efficiency (variation, drift, migration), and the pressure towards cultural efficiency. In this sense, QTC can be interpreted as memetic economics that combines the complementary analytical potentials of semiotics and memetics. From semiotics it adopts the idea that signs in a system are connected, from memetics the analysis of how cultural evolution can happen. But it also imports the orthodoxy's model of agency and develops from it a new mechanism of cultural selection.

Many objections to the anthropocentricity of QTC can be raised. For example, artificial intelligence blurs the boundaries between the human being and things. Taking this into account in a more generalised QTC, agency would no longer be exclusively limited to humans. This would make the theory richer, but only as long as there is still human agency in it.

The example of art shows this impressively enough. A purely semiotic view of art casts the brightest light on its language of signs and on the way in which artworks differ in this language. But why the innovation of a new artwork occurs, is only known in retrospect (in the case of a work by René Magritte, for example, in order to denounce *The Treachery of Images*). It is only the artists' agency, their

kunstwollen, that opens the perspective of art as an innovation process. Much like semiotics, sociology tends to deny artists any innovation-generating agency; it sees them as trapped in their field (and style). Sociology is thus more suitable for explaining the lack of innovation in art, especially since it does not even allow for the effects of chance. Although memetics introduces chance (variation, drift), its paradigm for memes, replicating by imitation, makes memetics equally inadequate for explaining artistic innovation. This is because, according to the choir of experts, art is about nothing *but* innovation: what is not innovation is not art, what is imitation is kitsch. But chance is only a good enough theory for innovation as long as there is no better one (as is the case in biology). In art, however, compared to chance, the artists' agency is a better model of innovation. Only in the arts?

In Part Three I will address, from the perspective of QTC, the stylistic-evolutionary processes in the present day. The site of the agency of innovation is the human being. Its objective function (13), expressing the human pursuit not of imitation but of social distance and proximity, is what allows it to be a stylistic innovator.

