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## I Can See Something You Don't See – or: There Is no Alternative to the Culture of Arguments

The proponents of competing paradigms are always at least slightly at cross-purposes. Neither side will grant all the non-empirical assumptions that the other needs in order to make its case. Like Proust and Berthollet arguing about the composition of chemical compounds, they are bound partly to talk through each other. Though each may hope to convert the other to his way of seeing his science and its problems, neither may hope to prove his case. The competition between paradigms is not the sort of battle that can be resolved by proofs. (Kuhn 1970, 148)

### 1.

Much speaks for the possibility that biology will take the place that only until recently was occupied by social systems or virtual realities, and before that by history, philosophy or anthropology: the position of a new and very promising leitparadigm for the field of literature and art. Currently this paradigm shift comes along with a perceptible defensive demeanour of post structuralism and deconstruction as well as a profound scepticism of the explanatory models used by cultural sciences or at least their claim for universality. Apparently a biological foundation of cultural sciences is supposed to work as a cleaning device for the noncommittal post-modern theories on the one hand and as a restriction for the relativism caused by ›cultural studies‹ on the other. Seen in this way, the discourse of the so-called ›soft-sciences‹ currently reveals a neo-positivistic trend which is not left untouched by the general developments and insecurities that are often referred to as globalisation phenomena. Therefore, the argument about cultural sciences' methods and contents soon changes into a fundamental discussion even concerning ›Weltanschauung‹. But such a discussion is not irrelevant but part of the argument itself.

However, in order to avoid unnecessary misunderstandings, the following would like to call to mind some premises of the discussion between the theory of evolution and cultural theory which are more or less accepted by both advocates as well as critics and thus do not make any claim for originality. At the outset one needs to choose between two approaches, which will decide whether and to what extent the paradigm of evolution be trusted when transferred to the realm of his-

torical literary and cultural science (a possible third approach which is not interested in the achievements of evolutionary research – for whatever reason – is not considered for this article):

1. An evolutionary theory of culture can aim to use knowledge gained from biological-genetic evolution on cultural events and problems. This approach assumes that the genetic paradigm contains an explanatory competency that can be transferred to human cultural activity, although boundaries have to be set for the particularities of cultural evolution. The basic assumption is that the objects of both scientific cultures are comparable; whereas their methods and conclusions are not (otherwise a new explanation would be superfluous).
2. Even such attempts can be seen as evolutionary theory of culture in a broader sense which do not aim on taking over scientific findings for the humanities but want to analyse evolutionary theoretical positions by using methods of literature and art science. Such analyses do not merely try to make evolutionary theory a topic for discourse in their own field, but they help to learn from questions of the other discipline: such an attempt sees the questions evolutionary theory asks as more illuminating than their answers and solutions and therefore supplements the »question concerning the evolution of culture with the question concerning the culture of evolution, i. e. for the cultural and scientific history of evolutionary theories and discourses« (Weigel 2006, 193). The basic assumption is just the opposite of the aforementioned attempts: showing that the methods of both cultures of knowledge are comparable but that their objects differ (cf. Weigel 2006; Endres 2008).

In practice, it is not always possible to keep both approaches apart (they are rather to be seen in the light of an ideal differentiation) but they predetermine more or less the anticipated result: The first case revolves around the question ›Who is right?‹ or ›Is that relevant?‹ in which case the answer will tend to fall in favour of the scientific paradigm – the second case leads to the question ›Is this new?‹, and the overall result would be a plea for the humanities as the older and more universal approach. In principle, the two approaches can result in opposite conclusions as well, question (1) ›Who is right?‹ respectively ›Is that relevant?‹ can be answered in favour of the humanities respectively with ›No‹ and question (2) ›Is this new?‹ can be answered with ›Yes‹ – but only by taking the opposite starting hypothesis: i. e. (1) the objects of both disciplines are commensurable and only their methods differ or rather (2) their methods are commensurable and their objects differ. Be that as it may, it seems that important non-empirical prerequisites in the sense of Thomas Kuhn can not be subjected to consideration. Evidently, the preference for a paradigm ›evolution‹ or a paradigm ›history‹ can not be discussed but has to be taken for granted. Is there a way out of this dilemma?

## 2.

The following deliberations attempt to summarize the findings of the discussion so far. One of the most important questions that the evolutionary theory of culture or an evolutionary aesthetics has to deal with concerns how the mechanism of inheritance and heredity functions. This mechanism clearly shows the claims of validity of the paradigms of biology and genetics as well as operates on the decisive point on which the literal implantation of biology in the humanities depends: What can one learn from the knowledge of the rules of natural inheritance for the comprehension of ›cultural inheritance‹? And do the however made-up modes of ›cultural inheritance‹ underlie the genetic codes of inheritance because all cultural activity is based upon the human and therefore upon a biological factor as well? Categorical differences between biological and cultural inheritance can be presumed by opponents and advocates of evolutionary cultural theory alike: Karl Eibl used the term of the »bio-cultural twin columns of human behaviour« (Eibl 1995, 12) and Michael Tomasello has coined the phrase »dual inheritance theory« (Tomasello 1999, 14). In both cases, the genetic program is indeed a necessary but not sufficient condition for the possibility of cultural and artistic processes to be determined.

The pertinence of scientific knowledge for the explaining of cultural transfers seems – beyond being a premise – to depend upon the chosen example. For example, Stephen J. Gould and Richard Lewontin conceptualize the emergence of human culture as a ›niche construction‹, which operates analogous to the subsequent use of the spandrels of the San Marco sanctuary in Venice as a canvas: the spandrels were not designed to be used as a fundament for a mural but rather they are a ›by-product‹ of the architectural construction whose free space could be adapted for artistic purposes: »Since the spaces must exist, they are often used for ingenious ornamental effect« (Gould/Lewontin 1979, 148). Precisely in that manner or at least similarly, the cultural evolution re-colonized what biological evolution has already built, even though the last cannot be held responsible in terms of intention or a teleological explanation for the first (cf. Eibl 2004, 310). Nevertheless – or perhaps exactly for that reason – nobody (not even an art historian) would want to deny that a knowledge of architectural history and static principles can be helpful and even interesting for analysing the iconographic programme of San Marco.

But if one chooses a different example, the results will be quite different: the human hand seems to be an elaborate structure of evolution, whose development was initiated besides biological criteria by epigenetic factors of ontogeny and human culture (cf. Wilson 1998). The advantage of survival of such a high developed organ tool in the so-called ›primeval times‹ is immediately evident. Also, the cultural invention of script would not have been possible without the anatomic precondition of the human hand – but the human hand was not developed for this purpose: script seems to be a subsequent adaptation or extraction using a biological

evolutionary asset for cultural evolution. But how fruitful is such a knowledge concerning specific questions of the history of literature like Hölderlin's late poetic fragments (even though they could not have come into being without the physiological fact of the hand)? Does Eibl still hold true for this case: »How are we meant to study the *use* of biological dispositions without studying the dispositions themselves?« (Eibl 2007, 426).

A general problem concerning the transfer of scientific knowledge into the humanities seems to be the equalisation of fact and validity questions, which was implicitly objected to by Kelleter (Kelleter 2007). Biological evolutionary theory mainly deals with questions of *genesis*, e. g. by examining the (bio)genetic foundations of humans – the main focus is on how something originated (or even how something could have been discovered). Philosophy and logic, as well as other historical sciences, by contrast focus on questions of validity which aim at legitimating: they are concerned (quoting Karl Popper) »not with *questions of fact* (Kant's *quid facti?*), but only with questions of *justification* or *validity* (Kant's *quid iuris?*). Its questions are of the following kind. Can a statement be justified? And if so, how? Is it logically dependent on certain other statements? Or does it perhaps contradict them? [...] Accordingly I shall distinguish sharply between the process of conceiving a new idea, and the methods and results of examining it logically« (Popper 1959, 31; cf. Kant 1974, B 117). In other words: Whether a certain cultural phenomenon is biologically feasible or does not contradict scientific principles, does not explain why it *has* been passed on – at best it explains why it *could* be passed on. »Apriori« in the philosophical sense may have emerged phylogenetically, why they became preconditions of the possibility of logical argumentation and assured knowledge does not at all result from such a hint (cf. Irrgang 1993, 135, 45–47, 81, 114). An evolutionary scientific explanation does not only not supersede other explanations (and every serious advocate of a biological theory of culture would concede to this fact) but it might be dysfunctional or misleading in light of cultural phenomena of validity.

### 3.

So what are the similarities and what are the differences between biological and cultural evolution and inheritance? Biological evolution largely follows the Darwinian rules of variation, selection and re-stabilisation, i. e. (random) mutations are chosen by a per se blind mechanism of natural selection, hereby favouring adapted (or more adapted) organisms and preferably handing on their genetic material (cf. Mayr 1982). The discoveries in the field of genetics since Weismann and Johannsen have altered Darwin's opinion to the effect that inheritance of acquired characteristics could be ruled out – and that includes the changing of biological inheritance factors through the use or disuse of organs. The biological theory of systems furth-

ered such considerations into the direction of an independent co-evolution of system and environment and it favours a so-called ›neutral‹ selection, according to which adaptation presents itself as an autopoietic process (self-organising) of all systems engaged (cf. Maturana/Varela 1987; Wuketits 1988, 105 ff.).

Concerning cultural evolution and inheritance different principles have to be applied, following rather a Lamarckian than a Darwinian interpretation: cultural transformation processes distinguish themselves because

- it is possible to pass on (›inherit‹, if you will) acquired characteristics
- adaptations of cultural evolution, unlike biological evolution, can very well be directed, and the factors of variation and selection are not uncoupled, but linked to one another
- the stabilising or non-stabilising of cultural discoveries is not necessarily subject to the regulation of survival or reproductive advantage (cf. Kronfeldner 2007).

Unlike Lamarck thought, the cultural phenotype does not affect the biological genotype (at the most only insofar as human cultural activity moulded the environment in which genes were chosen through natural selection): »Culture is defined as non-biological in the sense that cultural units are not transmitted through our biological system of inheritance. On the contrary, cultural units are defined as being transmitted via *social learning*. In a biological sense of inheritance, culture thus contains no kind of inheritance – by definition« (Kronfeldner 2007, 501).

In view of the blatant differences between biological and cultural evolution and inheritance one might believe their common grounds to be marginal, thus assigning evolution and inheritance in the realm of cultural phenomena only a metaphorical value. Conversely, the existent commonalities can be focussed upon. In a nutshell they can be reduced to the principle of variation, selection and re-stabilisation, which – as far as we know – can also be applied to formation and transfer processes of cultural development: cultural inventions, in simple terms, will only prevail (›be passed on‹) if they offer beneficial adaptation in terms of successfully solving a problem (even though the problem that the mechanisms of selection themselves underlie a historic development still is not solved). An accordingly shaped programme has successfully been applied to the evolution of culture (cf. Eibl 1995), therefore an explanation of cultural phenomena not exactly *by* but *analogous to* the principles of biological evolution seems not only possible but sensible in certain circumstances.

However, such an explanation is valid even if cultural evolution is not traced back to a biological evolutionary base. Accordingly, models of variation, selection and re-stabilisation have already been evaluated by Karl Popper or Thomas Kuhn, without implying any substantial identity between the evolution of organisms and

the evolution of knowledge<sup>1</sup> – and Karl Eibl has shown years ago that the study of literature focussing on the mechanisms of solving problems can manage without the base of a biological theory of culture (cf. Eibl 1976). Solely the suitability of such an explanatory model does not yet imply the acceptance of biological paradigms of a Darwinian theory of evolution for questions of culture. But might such a step – despite all differences between biological and cultural evolution – not be conclusive and illuminating?

#### 4.

Even if taking this step, one has to look at the examples the supporters of ›socio-biological‹ literature and humanities favour. Why should human cultural activity not have genetic roots, which evolved in ›primeval‹ times according to the rules of natural or sexual selection and have been stabilised in the biological reservoir of mankind?<sup>2</sup> A popular scenario looks more or less like this: »If a specially gifted homo ergaster/erectus or sapiens tells fascinating stories or is able to elicit strange sounds out of a dried sheep bowel, if satirical songs are sung about a timid neighbour and in mutual plays the leopard and the snake are imitated and killed, all of these actions have an evolutionary quality: minds are relaxed, the immune system is strengthened and even the gonads do their part again. That is the source of adaptations which ›higher‹ culture is based upon« (Eibl 2004, 315 f.).

Such an argument should be taken seriously when one wishes to talk about its boundaries. For this we must go into greater detail: Through a series of experiments and research on the Max Planck Institute for Evolutionary Anthropology in Leipzig, Michael Tomasello has confirmed the assumption that cognitive skills and products distinguishing humans and animals only depend on *one* inherited socio-cognitive skill: the skill to view others as intentional beings similar to oneself (Tomasello 1999, 53 f.). Due to this skill humans have e. g. the ability to attribute the cultural products of others to a problem solving intention, and thus to adopt it even if its profit (or adaptive benefit) is not visible yet. Clinical studies of autism

<sup>1</sup> At least that applies to Popper in the *Logik der Forschung* [The Logic of Scientific Discovery] (cf. Popper 1959, 278). Cf. Kuhn 1970, 172: »The analogy that relates the evolution of organisms to the evolution of scientific ideas can easily be pushed too far. But with respect to the issues of this closing section [which has to do with progress gained through scientific revolutions] it is very nearly perfect.« According to Kuhn, exactly for this reason there is no justification for the evolution of ideas along the pattern of biological evolution, but rather only an explanation of the latter as an »analogy« to the former. Cf. in detail Bayertz 1987.

<sup>2</sup> Of course that is not to say that cultural behavior that is not attached to any evolutionary or adaptive reward cannot also be ›inherited‹, for the practice of suicide bombers exemplifies that, despite their enormous biological ›cost‹, they do not seem to become extinct. Tooby/Cosmides would explain such contra- or ex-adaptive tendencies of human culture as analogous to catching a disease or becoming addicted to drugs: they are not something humans were designed for, but something »they are vulnerable to« (Tooby/Cosmides 2001, 10).

have shown that a certain genetic defect also accompanies the loss of such patterns of cultural behavior. If human cultural activity is based upon such a slight genetic difference for instance to the chimpanzee (which shares roughly 99 % of its genetic material with man), what is the potential of a genetic explanation of cultural phenomena? At least the natural scientist is careful at this point: »This means that most, if not all, of the species-unique cognitive skills of human beings are not due to a unique biological inheritance directly, but rather result from a variety of historical and ontogenetic processes that are set into motion by the one uniquely human, biologically inherited, cognitive capacity« (Tomasello 1999, 15).<sup>3</sup> Put another way: When the ›desire-stress mechanism‹ really is responsible for the products of literary and art history, why did man – in contrast to his biological relatives in the animal kingdom – not only develop in his genetic programming specific ways of reducing stress, but also such activities as painting and story-telling?

In many cases the ›genetic‹ foundations of culture (made public by representatives of evolutionary psychology), like story telling and painting for stress reduction, are solely cultural phenotypes of a genotype which have emerged from the later through a complex – and in most cases not familiar – epigenetic process. What is proved by this is only that there is a transfer of cultural phenotypes (commonly called ›history‹) – which is admittedly beyond dispute. However, it has to remain unanswered for the time being whether an evolutionary theory of culture can explain the historical and cultural phenomena which are associated with these processes better than theories of cultural mimesis, cultural memory or discourse analysis (just to mention a few).

Can the dilemma between hermeneutic and evolutionary cultural theory be solved once and for all by such means? Hardly likely. Because even if the explanatory value of – fairly general – biological premises for – very specific – cultural phenomena is considered to be quite minimal, it does not follow that one must quit searching for them: »Nonetheless, there are biological dispositions that make possible the historical fact that literature exists and exists the way it does, and there are biologically grounded functions that can be performed by the historical phenomenon of literature« (Eibl 2007, 427). But the findings such a search brings forth do not end the scientific discussion and the debate about their inter-

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<sup>3</sup> Cultural evolution is therefore not ›free‹ from the general demands of human nature, but simply is not determined by them. Therefore, an under the laws of EEA (Environment of Evolutionary Adaptedness) possibly effective coherence between reproductive benefit and choice of beauty in the cultural history in the last 10,000 years can already have been suspended: »Human culture can be defined as Darwinian insofar as it generally and even virtually tends to block sexual selection; rather, the disempowerment of the selection according to beauty is specifically human, among whom it is a strength or even highly cultivated ›discovery‹.« (Menninghaus 2003, 118). The attempt to explain such a hiatus between biology and culture usually relies on theories by Herder and Gehlen, whose reasoning admittedly does not back what evolutionary psychology actually wants to prove: that the cultural uncoupling from nature has a biological function in itself.

pretation. For this, the historical-hermeneutic convictions will probably not only be themselves under scrutiny, but will also play a significant role. For »that misunderstandings happen by themselves and understanding of every point must be willed and sought after« (Schleiermacher 1977, 92) also continues to apply to the competition on the field's best arguments and correct methods. But perhaps – in view of Thomas Kuhn – the field of hermeneutics is, in this case, still too optimistic.

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