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PRINCIPLES OF CULTURAL CHANGE
CONTENTS

1. Foreword .................................................................................................................................. 3
2. Natural codes ............................................................................................................................ 4
3. Artificial codes .......................................................................................................................... 7
4. Codes of the third kind ............................................................................................................. 7
5. Concluding remarks ................................................................................................................ 10
1. **FOREWORD**

Cologne Cathedral, Picasso’s painting »Guernica«, and the Great Wall of China are cultural works of the highest order. But they have no part in considerations of cultural change. Individual cultural works don’t change, at least not in the sense in which we are interested here. I will speak only of cultural phenomena that are subject, over decades and centuries, to a kind of cultural evolution, such as our concepts of justice and morality, ideal beauty, artistic styles, languages, and fashion. In brief, this talk is not about individual cultural objects, but about systems that – metaphorically speaking – adhere to a cultural grammar.

»Culture is learned sign behavior«, writes RAIMO ANTTILA, a linguist at UCLA in his well-known book *Historical and Comparative Linguistics*. This assertion implies that culture has something to do with signs and something to do with rules. A system of signs with rules is a code. So my subject today will be change in cultural codes.

Systems of signs shape our lives and our behavior, and more than we usually realize it. We often become aware of our lives’ complete saturation with signs only when the signs in our behavior lead to unexpected interpretations by others, or if we have difficulties in adequately interpreting them in the behavior of others. Cultural codes are not only the big things like styles in art and literature and trends in religion or philosophy. Cultural codes are also the many little things in life: The way we move; how, when, and what we eat; how we dress. These things are such inherent parts of our lives that we may have a hard time deciding if they are nature or a part of our culture. In different cultures, different areas are open to the interpretation of signs. For example, in some cultures, how you move when you walk is significant, and in others, it means nothing at all. Generally, the more »semiotized« life in a certain group is, the more cultured we find it to be (»cultured« in the colloquial sense). Let’s consider a simple example: Europeans eat with knives and forks, and the way in which they hold them is governed by rules – which may differ by group or country. As soon as we see a group – a subculture, say – where the use of knife and fork seems irregular, we tend to declare the group as lacking in culture in the way they eat, independently of how efficient their method is. In other words, culture goes hand in hand with the regulation of behavior. We equate the validity of a code with cultivation, and the unregulated areas are »semiotic gaps.« That is, we tend to judge unregulated areas as being »uncultivated.« People usually only notice semiotic gaps if they themselves belong to a group where the gaps in question are closed.

Cultural codes don’t fall from the sky; they come into being. But they generally don’t come into being in the way artifacts do, namely through careful planning and intentional realization. Cultural
codes are not invented. No one invented Gothic architecture, Chinese characters, American jazz, Italian cuisine, or the English language. All of these are phenomena without defined beginning or end, phases of cultural evolution that are principally infinite in duration. We are usually able to understand the character of such phenomena only when we know how they came into being. And then we also understand how they change. For cultural codes, essence, genesis and change are just three sides of the same coin. But we also cannot understand the principles of change unless we understand stasis. You can’t understand why stock prices rise or fall without understanding why they stay the same. When linguists, for example, want to find out why a language changes, they usually forget that it's even more mysterious why so much of a language stays the same. The question »What keeps it together?« is no less important than »What drives it apart?«. After this introduction, we will turn our attention to codes in general and cultural codes in particular.

When we consider codes under the aspect of change, we have to distinguish between three types: (1) Natural codes, (2) artificial codes, and (3) codes of the third kind. Let me say right now that the codes of the third kind are the really interesting ones, and they will be the focus of our discussion. Nevertheless, we want to proceed in an orderly manner, and will therefore first devote our attention to natural codes.

2. NATURAL CODES

Natural codes are by definition not cultural phenomena. They can be found in animal nature – mating rituals among birds, for example – and therefore, of course, they can also be found among humans. Natural codes are innate; they are not intentionally practiced, and the mechanism of their change is biological evolution. If this were the whole truth, natural codes would have no place in a talk about the principles of cultural change. Interestingly, however, natural codes are typically a springboard to cultural codes. As an example, let us consider a natural code that is very human: Crying. People cry when they're afraid, when they're in pain, when they're sad or angry, and sometime even for joy or emotion. The fact that we cry is part of our human nature, but the situations in which we cry, and how – the performance of crying – is highly culturally overlaid, at least for adults. We comply with a grammar of crying that each of us learned in the course of his or her socialization. The same goes for laughing, facial expressions, and gestures – basically for every kind of body language with which we express feelings, attitudes, and emotions. None of this is purely natural; it’s all culturally contaminated. How does this kind of cultural overlay of previously purely natural behavior happen? The answer is that it comes from people understanding aspects of behavior as signs. To explain this, I will have to digress somewhat.
Since very early times, sign theorists have distinguished among three types of signs: Symptoms, icons, and symbols (whereby in Peirce’s tradition, symptoms are called indexes). Signs are perceptible phenomena that can be interpreted. We may distinguish among these three types of signs by means of the way they are interpreted, or can be interpreted. Symbols – like the words in our languages – are interpretable exactly because their use follows conventional rules. So what I want to say is that symbols are signs whose interpretation can be based on rules, and things or aspects of behavior become symbols when their use becomes regulated. Icons – like the graphic signs for the various Olympic sports disciplines – are interpretable because they arouse associations in their viewers. Generally, they do this with some kind of similarity with that what is meant, no matter how this similarity is achieved. Symptoms – like certain signs of illness – are interpretable when the interpreter, such as a doctor, is familiar with the respective causal relationships and knows how to apply them.

Our original question was, how does it happen that a previously purely natural form of behavior becomes culturally overlaid? We may now reformulate this question as follows: How do some symptoms become symbols? I would like to break this question down into three parts: 1. Which symptoms become symbols? 2. Under what conditions do symptoms become symbols? 3. How does symbolification happen?

Ad 1: First, we can observe that crying might take on the character of a symbol, but a skin rash may not, even though both of them, crying and rashes, are phenomena that can be interpreted as symptoms, because both of them have a causal relationship to certain physical states. But in one important point, they differ. As adults, we can control and consciously influence crying to a certain degree, but we cannot do the same with skin rashes. Only because crying is partially controllable can conventions arise that regulate how, when and where we cry. These kind of conventions cannot arise for getting a rash. We may then note that cultural rules for symptoms arise only when we are able at least to some degree to control the symptoms in question.

Ad 2: Under what conditions do conventions for symptoms like crying arise? They arise when people become aware of the fact that the phenomenon is interpreted by other people as a sign. When I know that my tears of sadness are made into an object of interpretation by others, I can use my possibilities of controlling them to influence their interpretation to my advantage: »You should see that I’m sad, but not think that I’ve completely lost control.« Or: »You should see that I am completely despairing and unable to control myself.« Or: »You should see how bravely I bear my pain«, and so on. With this, what was originally a natural symptom of inner emotion adopts the character of an

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intentionally deployed means of communication. A symptom of sadness becomes to some degree a symbol of sadness, and thus a part of our nature becomes a part of our culture.

**Ad 3:** How do I know how I should cry so whoever sees me understands it, that is, draws exactly the interpretative conclusions that I want them to? Whenever we are concerned about being correctly understood, there is a basic strategy that we always follow in communicating: »Behave in the way that you believe the other would behave if he were in your place – that is, if he were in your situation and wanted to realize your communicative intentions.« If I do what you would do in my place, my chances are best that you will interpret correctly what I want to get across to you. When every, or almost every, member of a group follows this maxim, coordinated behavior within that group – that is, conventions – are bound to arise. Elsewhere, I have called this the »Humboldt maxim« because WILHELM VON HUMBOLDT put it much the same way for the first time in 1836.

This example demonstrates three things: First, it shows how an element of human nature can become an element of human culture – the culture of crying. Second, it shows that there are continua between natural codes and cultural codes. This is true in the ontogenetic sense, as in an individual’s process of maturation from infant to adult, as well as in the phylogenetic and cultural-historical sense. Third, this example shows that two modes of interpretation can be overlaid, in this case the symptomic and the symbolic modes. Of course, even the most »cultivated« crying is still a natural sign of sadness or pain (unless it is completely false, simulated crying). This simultaneity is possible because the causal relationship that is used to interpret symptoms has two manifestations: One, a symptom can be interpreted first against the backdrop of a cause-and-effect relationship: Crying is an effect caused by sadness. (We could also see this relationship as part of a whole and say that crying is part of the behavior of sadness. The question of which of these two ways of looking at it is more fitting is not one I want to discuss here.)

Two, a symptom can be interpreted against the backdrop of a means-to-an-end relationship: If I interpret a pistol aimed at me as a symptom that someone is after my life, I deduce the end from the means. Analogously, crying can under certain conditions be interpreted as a means to the end of expressing sadness.

If you look closer at these two forms of causal conclusions, you will see that only the second form, the means-to-an-end relationship, includes intentionality. Anyone who interprets something as a means to an end must assume intentions. Since communication necessarily implies intentionality, the

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2 On the concept of convention and the relation between conventions and coordination, see Lewis 1969.
4 From this follows that you cannot not not communicate.
assumption of communicative intention can be made only of those symptoms that are interpreted as a means to an end. With natural human symptoms that we can control to some degree, these two modes of interpretation are not mutually exclusive. Insofar as crying is a natural physical reaction, it can be interpreted as an effect caused by sadness. Insofar as the »performance« of crying is overlaid by conventional rules, the fact that someone in a certain situation cries just so, and not in any other way, can be at the same time interpreted as a symbol of, say, bravery.\(^5\)

3. **ARTIFICIAL CODES**

We will not spend much time on artificial codes. They arise because people invent them for some reason; and they change because people decide to change them. Examples of this are military ranks, including their insignia; tax brackets; and computer programming languages. There is no doubt that these are cultural products, but they are uninteresting as far as change is concerned – that is, unless they »free« themselves of their creators and take on lives of their own. This is happening to some degree with the artificial language invented by Ludwig Lazarus Zamenhof in 1887, Esperanto. Since it is actively spoken by small groups around the world, it has partially escaped the control of the central management committee and begun its own process of evolution. But with this, Esperanto has to some degree become what I call a code of the third kind.

4. **CODES OF THE THIRD KIND**

**WHAT ARE THE CHARACTERISTIC FEATURES OF CODES OF THE THIRD KIND?**

People long believed that everything in the world could be divided into two disjunct classes: Those made by God and in those made by man. Or to put it profanely, into natural phenomena and artifacts.\(^6\) But if you try to find a place for the most illustrious achievements of human culture in this binary system, you run into problems: We know, of course, that the English language, today’s modern Chinese characters, American jazz, Gothic architecture and European fashion – to name just a few examples – are not natural phenomena. In a certain sense, they have been made by humans. But who made them? When were they invented? There are no answers to these questions, because all of these phenomena have something in common: They are the results of human action without humans having intentionally planned them. The English language in its current form was not invented by some

\(^5\) The fact that symbolized symptoms do not have to lose the character of symptoms can be seen in other examples as well: A status symbol – such as a big car – is still a symptom of wealth. Cf. Keller 1998: 148.

intelligent person or by a central committee; rather, it developed in an evolutionary process with no identifiable beginning or end. English in its current form is the result of millions of communicative acts by millions of speakers over thousands of years. And each individual speaker had his own personal communicative goals in mind, one of which was definitely not to change his own language and most certainly not to create the English of today. Cultural phenomena of this kind are spontaneous orders, which arise as the unintended cumulative effect of human actions – but actions that are not directed at the creation of such an effect. These phenomena have something in common with artifacts in that they are the product of human actions, but they differ from artifacts in that they are not the realization of a preexistent plan. They are neither natural nor artificial, but phenomena of the third kind.

**HOW DO CODES OF THE THIRD KIND ARISE?**

When a large number of people act, phenomena of the third kind can arise as side effects. Not all of them are beneficial, and not all are products of culture. For example, the ozone hole over Antarctica may be such a phenomenon; systems of beaten paths found on the lawns of university campuses are certainly one. Clearly, so is the way people dress in a free society. I would not consider ozone holes and the beaten paths on university campuses as products of culture, but the way people dress certainly is. I assume that the decision as to what belongs to culture and what does not is to a large degree arbitrary. (We would presumably consider the »beaten path« that we call the Silk Road to be a phenomenon of culture.) Not all human actions generate phenomena of the third kind, but only those that are similar in a certain way. When people walk back and forth randomly over a lawn, nothing interesting results. A beaten path is created only when their actions are coordinated. But what's unique and characteristic here is that the actions are coordinated without any coordinator! When we consider the processes of genesis and change for these phenomena, the decisive question is how there can be coordination without a coordinator. In the case of the beaten path, the answer is easy: Because people tend to choose the shortest route. Thus in this case, Zipf's *principle of least effort* explains the coordination without a coordinator. With complex codes, which cultural phenomena usually are, different, sometimes contradictory maxims are intertwined. Furthermore, the behavioral maxims that apply are sometimes specific to certain areas. For example, people follow different maxims in choosing what to wear than in choosing materials to build houses. Nevertheless, it is still possible to identify types of maxims, which, if they are formulated abstractly enough, apply to many types of cultural codes. I will demonstrate this using an example with fictive and not-so-fictive modes of dress.
These days, if you look around in any conference room filled with a larger group of academics, you will presumably observe the following: All the people of the same gender are fairly similarly clothed, but there are no two people in the room who are clothed fully identically – and this without any agreement on dress code. When it comes to clothing, people obviously find their place in the narrow window between homogeneity and absolute identity. How do they do this? Every individual chooses his clothing according to his best judgement. But he clearly follows certain maxims that generate this overall structure, and over the long term provide for a certain level of change in the dress code.

**WHAT FUELS STASIS AND CHANGE IN CODES OF THE THIRD KIND?**

Behavioral maxims can be classified, for instance, by whether they generally create stabile structures or dynamic ones. They can also be classified by whether their influences is homogenizing or heterogenisizing. As an intellectual game, let's consider a group of people – a tribal community, say – where each individual chooses his or her clothing according to the maxim *Dress so that you don't stand out.* Here, it is clear that over time, even with a heterogeneous starting situation, a homogeneous dress code will prevail that is also relatively stabile, at least as long as this is the only maxim followed. However, if our tribal community follows the maxim *Dress so that you stand out* – a maxim that seems to be the rule in some groups of young people – their dress code would become highly diverse and probably also dynamic. When the general maxim of the tribal community is *Dress so people can tell who you are,* the overall structure of the dress code will become heterogeneous, but still remain pretty stabile: The dress code's heterogeneity would allow individuals to clothe themselves identifiably, while its stability allows them to be identified. If our tribal community chooses its clothing according to the maxim *Dress like the chief,* the dress code will become homogeneous, and its dynamic will be dependent on how often the tribe gets a new chief.

For each of these maxims, equivalent alternatives can be found – alternatives that have the same effect. For example, a tribal community whose individuals clothe themselves according to the maxim *Dress so that outsiders recognize you as a member of your tribe,* a stabile and homogeneous dress code will develop, such as we may observe in the form of tribal costumes or the dress of religious communities like the Hutterites.
This cross classification can be brought into a four-sided chart:

<table>
<thead>
<tr>
<th>HOMOGENIZING</th>
<th>HETEROGENIZING</th>
</tr>
</thead>
<tbody>
<tr>
<td>STABILIZING</td>
<td>Dress so that you do not stand out.</td>
</tr>
<tr>
<td>DYNAMIZING</td>
<td>Dress like the current chief.</td>
</tr>
<tr>
<td></td>
<td>Dress so people can tell who you are.</td>
</tr>
<tr>
<td></td>
<td>Dress so you stand out.</td>
</tr>
</tbody>
</table>

Other maxims could be added to these that also function in a way that creates structures. For instance, the maxim *Dress to show your wealth* applies in many groups, just as does its opposite *Dress so your wealth doesn't show*. And naturally also the very trivial *Dress so you neither freeze nor sweat*. However, it would not be possible to explain the care and effort that people on every continent take with their clothing if its function were nothing more than to protect the body against inclement weather.

When we reflect on our own behavioral maxims, we note that we do not follow only maxims in their pure form. Most of us, for example, don’t want to stand out too much, but we don’t want to fade into the woodwork, either. Many people want others to recognize how wealthy they are, but not too obviously. The choice of clothing is a mixed-motive game. One special strategy is to show that you are so wealthy that you don’t need to show how wealthy you are. The right clothing for this can be found too – as far as I know, in England.

5. CONCLUDING REMARKS

All the maxims that people follow are subsumed by one hypermaxim: *Behave in a way that makes you socially successful*. Cultural evolution is driven by our striving for social fitness. When people live in a group in which poverty and humility are highly prized, clothing like that of the Hutterites emerges. When loud individuality is prized, something like punk style arises. But all of these motives have one thing in common: They are dependent on correct interpretation by others. And this is where the Humboldt maxim mentioned above comes into play again and provides for homogeneity.

Now you will probably say that the way people dress is not a particularly representative example of a cultural code. If you believe this, then just replace the formula *Dress in such a way that* with the formula *Speak in such a way that*. You will see that these are very similar maxims, with the effect that languages are on the one hand surprisingly stable, but on the other that they are permanently in a state of change.

The vault of the cathedral of *Notre Dame de Paris* had the record height fo 34.94 m in 1163. In 1194, the cathedral of *Chartre* was built, whose vault climbs to 36.51 m. Subsequently, in 1212, the
vault of the cathedral of Reims reached 38 m. 1220 saw the start of work on the cathedral of Amiens; its vault soars to 42.30 m. The absolute record was meant to have been broken with the choir of Beauvais, begun in 1247, with a height of 47.48 m. But it was not to be. In 1284, the vault collapsed.  

LITERATURE


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