

A Semiotic Theory of Style

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“Style” exists in different areas

- In everyday speech, the term “style” is used for phenomena in different areas of culture and behavior
- “Styles” are talked about in texts, art, architecture, music, conversation, thinking and problem-solving; but also in sports, crafts, game-playing, walking, driving ...
- There exist many different theories of style, but no general theory encompassing all these phenomena
- Is a general theory of style possible?

Towards a general theory of style

- If we use the same term for phenomena in different areas, it is plausible that they have something in common
- A model can be developed which describes what they have in common, abstracting from area-specific properties of style
- The goal of my thesis is to develop such a model
- We start with some assumptions:

Assumption 1: Realism

- “Style” is a phenomenon existing in reality (not just a term).

Support for the assumption:

- The term “style” is used much more precisely than defined.
- Style cannot be ‘defined away’ as just a manner of speaking because it has real consequences:

It can be used to assign works to artists, artists to schools, works to dates of origins, behavior (walking seen from a distance) to people, etc. All these effects are statistically significant, i.e. provable.

- We have effects in reality to explain. Looking at different usages of a term won’t do!
- The theory proposed here models the phenomenon.

Assumption 2: Adequacy

- The second methodological assumption is: the term “style” is normally used adequately for the phenomenon style.

Support for the assumption:

- Understanding without definition: People, if asked, give different definitions of style, but understand each other.
- Heuristic assumption; will be proved if a model is constructed that fits term and phenomenon.
- Heuristic value: decisions in model construction can be gauged with examples of term use.

Assumption 3: Generality

- Follows from assumption 2: The phenomena called “style” in different areas have something in common.
- The term carries over easily to new domains, e.g. animal behavior, AI, ...
- Again, this is only a heuristic assumption and is proved if the model of style proposed works for all areas.

What do they have in common?

Styles exist in many different areas ...

Text styles



Architectural styles



Driving styles

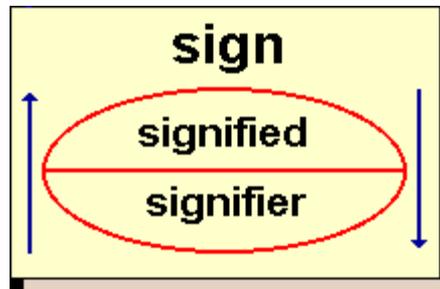


Style carries information

- Style carries information about lots of things:
personality, influences, experiences and social background of the style producer; time of the style production; hints on mental content of style producer and his/her culture (knowledge, opinions, world-view, likes and dislikes ...)
- This information often is not communicated directly, but it is transmitted anyhow, as inherent information in the style
- If style can transmit information, it can be said to have a message (= content, information): It is a sign process.

A semiotic approach

- Style is an (uncoded) sign process: it has sender, receiver, content, context, channel, but no code
- What the f... is a sign?
- The simplest model of the sign (F. de Saussure) has two parts: signifier and signified (or: expression and content)



The importance of style

- In a semiotic perspective we see style as a sign process with (intentional or unintentional) sender and receiver.
- In a sign process, content is transmitted, i.e. information travels from the sender to the receiver
- It's probably the informational value of style which makes it an important cultural phenomenon:

receiver side: Being able to receive styles means getting a lot of additional information without the reciprocity costs of communication.

sender side: Since we all willy-nilly send stylistic information, it's better to understand the process and manipulate the information sent.

Two processes

- Style can be divided into two processes: feature process and interpretation process.
- These are modeled separately, the second process building on the first. It should be kept in mind that they are not independent, but interact in different ways.
- In the feature process, stylistic features are inscribed in and read out of a realisation
- In the interpretation process, a stylistic interpretation is produced. Stylistic features and all available background knowledge can be used to get information of different sorts and even emotional and aesthetic reactions for a style.
- We start with a derivation of the feature process.

Style as choice

- Information is not directly given, but is created via choice
- Choice is here not meant as “intentional choice”, but as “specification”
- If something can be done in different ways, but is (non-randomly) done in a certain way, information is created:
 1. Reasons for this choice can be guessed (background, influences, capabilities, world-view, intentions ...)
 2. Artifacts, behaviors etc. that carry a style can be linked to style producers, to times of creation, to artistic schools, to technological levels, to cultures
- We need a general formulation for this choice process

Schemata

- Schema: Everything which is partly predefined and can be executed with a degree of freedom
- Every execution of a schema is called “realisation”. Realisations are underspecified by schemata
- Schemata are abstract entities existing in the minds of people, in cultures, in conventions, in genetically determined behavior
- Realisations are concrete entities existing or happening in the world (artifacts; texts; communications; actions; behaviors)
- Three basic schema types are assumed here:
behavior schema, artifact schema, text schema

Note: Intended is not the definition of a schema-definition, but a specification of conditions for a schema-definition to be compatible with the style theory presented here.

Schema \rightarrow realisation: Choice

- When a schema is realised, there exists choice
- To analyse this choice, realisations are divided in realisation-places
- For each realisation-place, conditions are defined
- With these conditions, a class of options is defined
- From the class of options, one element is chosen for the realisation

Note: This description is influenced by structuralism. “Option class” and “realisation” are generalisations of “paradigm” and “syntagm”. However, the latter include only signs as elements, the former many different kinds of things, parts of things, structures, forms ... everything that can fill a realisation-place.

... finally — style!

- The choice process can carry information if there are regularities
- We define a general format for writing down these regularities: “Rules of choice”
- “Rules of choice” correspond roughly to what is traditionally called “stylistic features”
- Therefore, we can call them “feature rules”
- A style is simply a set B of feature rules

The feature process

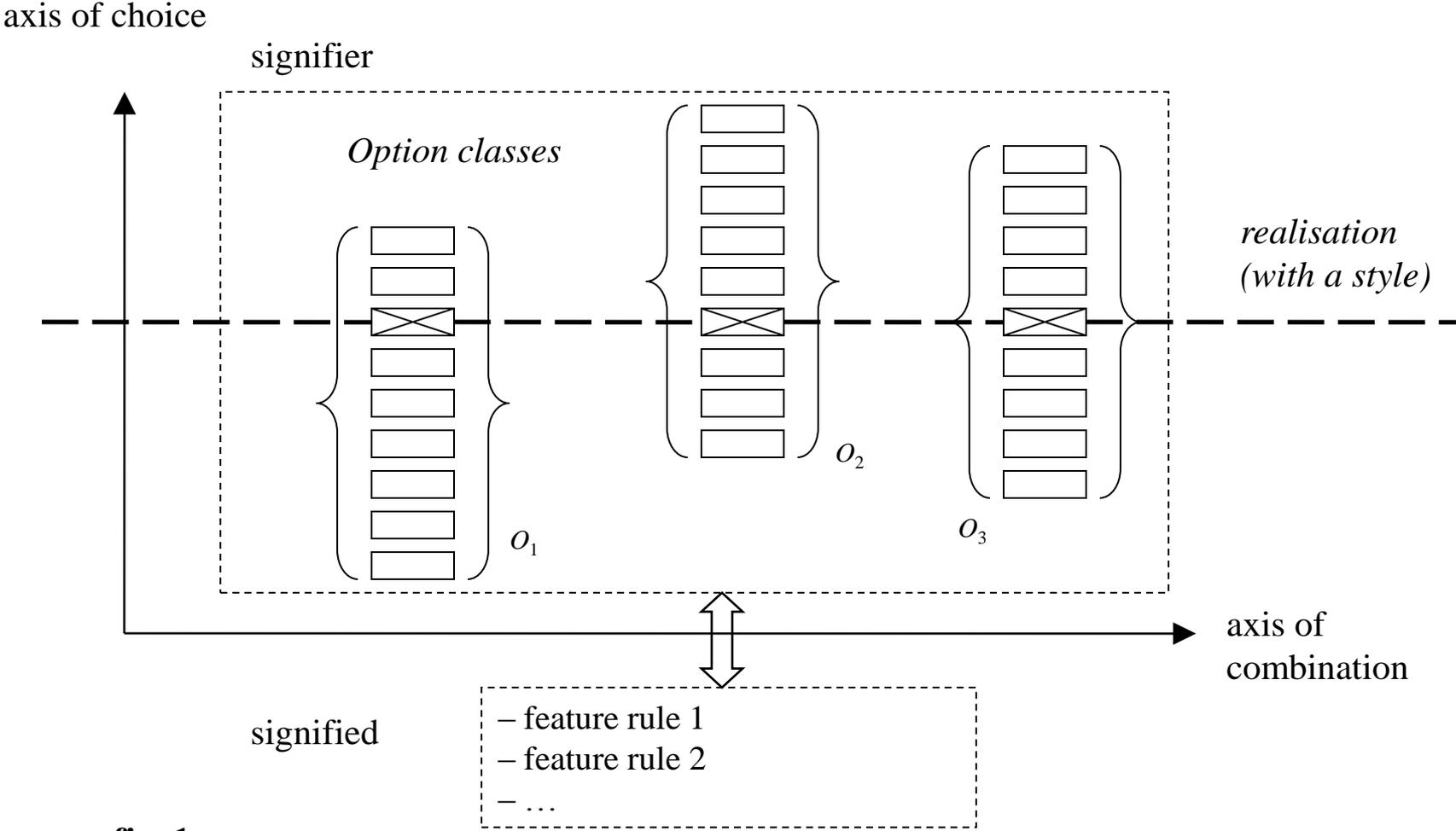


fig. 1

Feature rules (1)

Each feature rule consists of four variables:

1. Conditions of application U
2. Necessary properties (of the element chosen) V
3. Probability of application W
4. Prioritisation i_j [given as index of rules]

Feature rules (2)

- U* determines at which realisation-places the rule is applied
[e.g. in a text to nouns]
- V* gives properties the element chosen for the realisation needs to have (if the rule is applied), i.e. it defines a subclass of the option class
[e.g. a writer likes old-fashioned nouns]
- W* rules are often not applied to each realisation-place it could be applied to
[not every noun will be old-fashioned, maybe every 50th noun, $W = 0,02$]
- i_j* order of application (because rules often conflict)
[the writer also prefers latin nouns; the rule applied at first might throw out all elements satisfying the *V* of the second rule, which cannot be applied]

Application of feature rules

- Realisation R is a set of realisation-places $R_1, \dots, R_{|R|}$
- For each realisation-place, a option class has to be formed:
 $O_1, \dots, O_{|O|}$
- Style B is a set of feature rules $B_1, \dots, B_{|B|}$
- For every realisation place all rules are applied in order of prioritisation
- Before and after the style process, there's non-stylistic choice
- The result is a realisation R
- Feature rules are 'inscribed' in the realisation by application

Schema execution

- Realisations are the result of a schema execution
- Style can be inscribed in a realisation
- To see the place of this process, we have to look at the process of schema execution as a whole
- 4 Steps:
 1. Choice of a schema
 2. Definition of a set of option classes
 - 3. Inscription of style**
 4. Remaining choice (finishing the realisation)

Inscription of feature rules

- Since a schema underdetermines its realisations, there is always choice when a realisation is created. Information inscribed in this choice process is called “style”.
- Rules are inscribed just by applying them!
- The theory will be partly formalized.

Note on formalisation: Processes can be formalised with algorithms; this has the advantage over a natural language rendition that one has to specify precisely how they work. The algorithms *model* the process, i.e. they give an generalized and simplified picture of the process.

function inscription (A, B)

for $i := 1$ to $|A|$

$A'_i := A_i$

$B' := B$

for $j := 1$ to $|B|$

while $|B'_j| > 0$

$k := \text{random}\mathbb{N}(1, |B'_j|)$

$A'_i := \text{apply_feature_rule}(A_i, A'_i, Ab_i, B_{jk})$

$B'_j := B'_j \setminus \{B_{jk}\}$

end

end

end

$A' := \{A'_1, \dots, A'_{|A|}\}$

return A'

end function

function apply_feature_rule (A_i, A'_i, Ab_i, B_{jk})

if ($U(B_{jk}) \subseteq Ab_i \wedge (V(B_{jk}) \not\subseteq Ab_i)$)

$A''_i := \{x \in A'_i \mid V_1(B_{jk})(x) \wedge V_2(B_{jk})(x) \wedge \dots \wedge V_n(B_{jk})(x)\}$

if $A''_i \neq \emptyset$

if $\text{random}_{\mathbb{R}}(0, 1) \leq w(B_{jk})$

$A'_i := A''_i$

end

end

end

return A'_i

end function

Extraction of feature rules

- For extraction, the following steps are necessary:
 1. The realisation has to be ‘parsed’ in realisation-places
 2. For each realisation-place, an option class has to be constructed
 3. Possible feature rules have to be postulated.
 4. It has to be checked if these rules could have been applied.

Note: For step 2, differences in world knowledge and/or schema knowledge lead to differences of the option classes. Since knowledge tends to differ between individuals, styles are extracted differently. Greater differences in knowledge (e.g. cultural differences) lead to greater differences in style extraction.

Interpretation

- The stylistic sign process, as mentioned above, consists of two processes:
 1. The feature process
 2. The interpretation process
- The interpretation process takes the results of the feature process – a list of stylistic features – as a starting point.
- The interpretation process, as described, takes place only in the style recipient.
- But the style sender can anticipate it and adjust the feature rules used to attain desired interpretation effects.

The interpretation process: variables

- The stylistic features $B_1, \dots, B_{|B|}$ extracted in the first process are basis for the interpretation; starting with them, all further meanings are derived.
- In interpreting something, however, we can use all background knowledge we have. Introduced elements of background knowledge are designated by H_1, H_2, \dots
- Results of the process are designated by M_1, M_2, \dots
- Different elements (stylistic features, background knowledge and results) can be combined to derive new results

The interpretation process: operations

- It seems that in interpretation, we can use all cognitive and emotional processes which allow us to derive something out of stylistic features.
- The theory constructed here is not normative: It doesn't distinguish between 'valid' and 'invalid' interpretations.
- But a general theory of thinking can't be part of a style theory. The phenomena style and interpretation (the latter part of thinking in general) overlap.
- We can use a list of operations and label the operation used in squared brackets: "... [Op: <Operation name>]", e.g. " $B_1 \rightarrow M_1$ [Op: induction]"
- An important operation is logical deduction, but induction and abduction might also be plausibly postulated. But there are probably operations even more difficult to describe, like direct emotional or aesthetic response.

Example 1: Richard Meier

B_1 : U : ‘some windows’; V : ‘ribbon glazing’

B_2 : U : ‘walls with ribbon glazing’; V : ‘curved walls’

H_1 : ‘ribbon glazing is a characteristic innovation of modernism’

H_2 : ‘organic rounded forms are characteristic for postmodernism’

B_1 and B_2 and H_1 and $H_2 \rightarrow M_1$ [Op: insertion, transposition]

M_1 : ‘ribbon glazing, a characteristic element of modernism, is built into curved walls, a characteristic element of postmodernism’

H_3 : ‘Richard Meiers work is created in the time of postmodernism, therefore it could be postmodernist’

M_1 and $H_3 \rightarrow M_2$ [Op: abduction]

M_2 : ‘postmodernist adaptation of elements of modernism and use in a postmodern fashion’

[...]





Example 2: Bret Easton Ellis

Bret Easton Ellis, *American Psycho & Glamorama*

B_1 : *U*: ‘verbs of speech introduction’; *V*: ‘colorful, changing expressions’, e.g. “I whipsper [...] Daisy murmurs [...] I sigh” (AP: 195), “I whisper [...] she warns [...] Jamie purrs” (G: 303).

B_2 : *U*: ‘personal conversations’; *V*: ‘Characters speak like advertising copy (AP: 135f) oder fashion advisors (AP: 149)’

B_3 : *U*: ‘expression of negative emotions’; *V*: ‘use of clichés out of the horror genre’, e.g. “fills me with a nameless dread” (AP: 137), “my life is a living hell” (AP: 136).

B_4 : *U*: ‘greeting and identification of other people’, *V*: ‘people permanently mistake each other (people are dressed and styled identically), but no one seems to mind’.

H_1 : ‘Frequent use of colorful verbs of speech introduction is typical for light fiction’

B_1, B_2, B_3 and $H_1 \rightarrow M_1$: ‘Characters are influenced by light fiction, advertising and the horror genre’

$B_4 \rightarrow M_2$: ‘Everyone tries to fit in; conformity reigns supreme; individuality and even identity don’t matter’

$M_1, M_2 \rightarrow M_3$: ‘The society described is superficial, addicted to popular culture, conformistic, its participants lose their individuality and even their identity.’

Summary: The result of this stylistic interpretation is a poignant critique of culture.

Example 2: Bret Easton Ellis

B_5 : U : content x_1 ['daily activities'], V : expression y_1 $y_1 = y_2$

R_1 : opposition \downarrow \longleftrightarrow R_2 : identity \uparrow

B_6 : U : content x_2 ['torture scenes'], V : expression y_2

contradiction

B_5 and $R(R_1, R_2) \rightarrow M_4$: 'For the narrator, everything seems to be similarly important. He can't distinguish between daily activities and extremely brutal behavior.'

H_2 : 'Someone who can't distinguish between daily activities and extremely brutal behavior is medically classified as a "psychopath".'

M_4 : 'The narrator is a psychopath.'

Summary: The fact that the narrator is a psychopath is sustained by the stylistic interpretation.