The Frame “Conception and Birth” in the Film *Gattaca*:
Connecting Frame Semantics with Multimodal Discourse Analysis

Martin Siefkes
Technical University of Chemnitz
Overview

1. Frames in discourse
2. Filmic discourse and multimodal analysis
3. Example from the film *Gattaca* (1997)
4. Future research directions
What are semantic frames?

• Background knowledge in texts

• Two traditions: Artificial intelligence research and Frame semantics (Minsky 1975, Schank/Abelson 1977).

• **Linguistics**: development of case grammar (Charles J. Fillmore; Ziem 2012)

• Verb arguments have semantic roles (e.g. *Agent*, *Object*, *Goal*, *Location*, etc.)

• **Computer linguistics**: Knowledge representation: ontologies; FrameNet; Semantic web
Semantic frames in film

• All semiotic artefacts are structured by frames

• Frames can be used to describe background knowledge in a general format

• Intermodal relations can be established through frames
Social / cultural change and textual depictions

- Frames describe the **conceptualisation of a domain** of a society
- Changing understanding of cultural domains can be understood as **frame change**
- Frame theory can be applied in **film analysis**: e.g. by comparing films from different times or cultures
- In *Gattaca*, **changing conceptualisations** are part of the subject matter of the film
Example

*Gattaca* (1997, dir.: Andrew Niccols)

9:00 – 10:35

- Describes a future “not too distant” from 1997 in which eugenics, and discrimination based on gene tests, are widespread

- Refers to highly charged discourses of the time
Frame Conception & Birth
(1997)$_{real}$

- **Actors**: mother, father, child, doctor, ...
- **Events**: love-making, conception, pregnancy, birth, health checks for the baby, ...
- **Script**: $<$love-making $\Rightarrow$ conception $\Rightarrow$ pregnancy $\Rightarrow$ birth $\Rightarrow$ health checks$>$
- **Locations**: private home, hospital, ...
- **Artefacts**: hospital bed, ...
- **Terms & idioms**: “intelligence quotient”, “A child conceived in love has a greater chance of happiness”, ...
Frame Conception & Birth
(future that is “not too distant” from 1997)

- **Actors**: mother, father, child, geneticist, doctor, ...
- **Events**: in-vitro fertilisation, testing of embryos, selection of suitable embryo (in consultation with the parents), conception, pregnancy, birth, genetic test, ...
- **Locations**: private home, medical practice, hospital, ...
- **Artefacts**: hospital bed, automated blood tests, genetic test set, ...
- **Terms & idioms**: “God’s child”, “faith birth”, “genetic quotient”, “borrowed ladder”, ”genoism”, ...
- **Social norms**: Discrimination is forbidden by law, but common ("No one takes the law seriously")

Frame networks

• Frames are connected: e.g. the frame *Conception & Birth* would be linked through the frame element *Caesarean section* with the frame *Operation* (hyperonym)

• Links are possible via elements (e.g. *actors, events* ...)

• *Connected frames* (1997): connected frames are *Love, Emotion, Family, Religion, Life, ...*

• *Connected frames* (a future not too distant from 1997):
  – *Genetic Engineering* (contains methods of *Birth & Conception*)
  – *Science* (contains the social domain structuring the frame)
  – *Eugenics* (describing cultural practices and goals of the frame)
Framing in film

- Films (and other texts) make use of frames to draw on existing cultural understanding
- Thorough world construction includes *fictional conceptualisation, terminology, social norms & practices*
- Frame templates have to be expanded accordingly
- Frame change $\rightarrow$ changes in world knowledge
- Use of frames to describe fictional worlds is *genre specific*: frequently used in science fiction & fantasy
Intermodality

• Multimodal texts use various semiotic and/or perceptual modes to create meaning (Bateman 2011, Wildfeuer 2012, Fricke 2013)

• **Semiotic** modes: language (text or speech), images, sound, ...

• **Perceptual** modes (= sensory channels): visual, auditory, haptic, ...

• Textual inferences are often based on information given in various modes

• **Intermodality**: additional textual properties that are caused by relations between modes
Intermodality in *Gattaca*

- **Music & images** of the conception scene refer to the frame *Conception & Birth (1997)*
  \[\text{real}\]

- **Verbal language** [narrative commentary] refers to the frame *Conception & Birth (not-too-distant future)*
  \[\text{real}\]

- **Intermodal irony** or **Intermodal commentary**
  \[\Rightarrow\] additional textual properties!

- *Gattaca*, 10:35 – 10:58: images give examples for what is more generally described in the verbal commentary.
  \[\Rightarrow\] **Exemplification**
Selected bibliography on frames, multimodality, and intermodal interactions


