

Terminologien in der Medizin im Spannungsfeld von Logik und Ontologie

**GMDS-Jahrestagung 2006, Leipzig
Mittwoch, 13. September 2006**

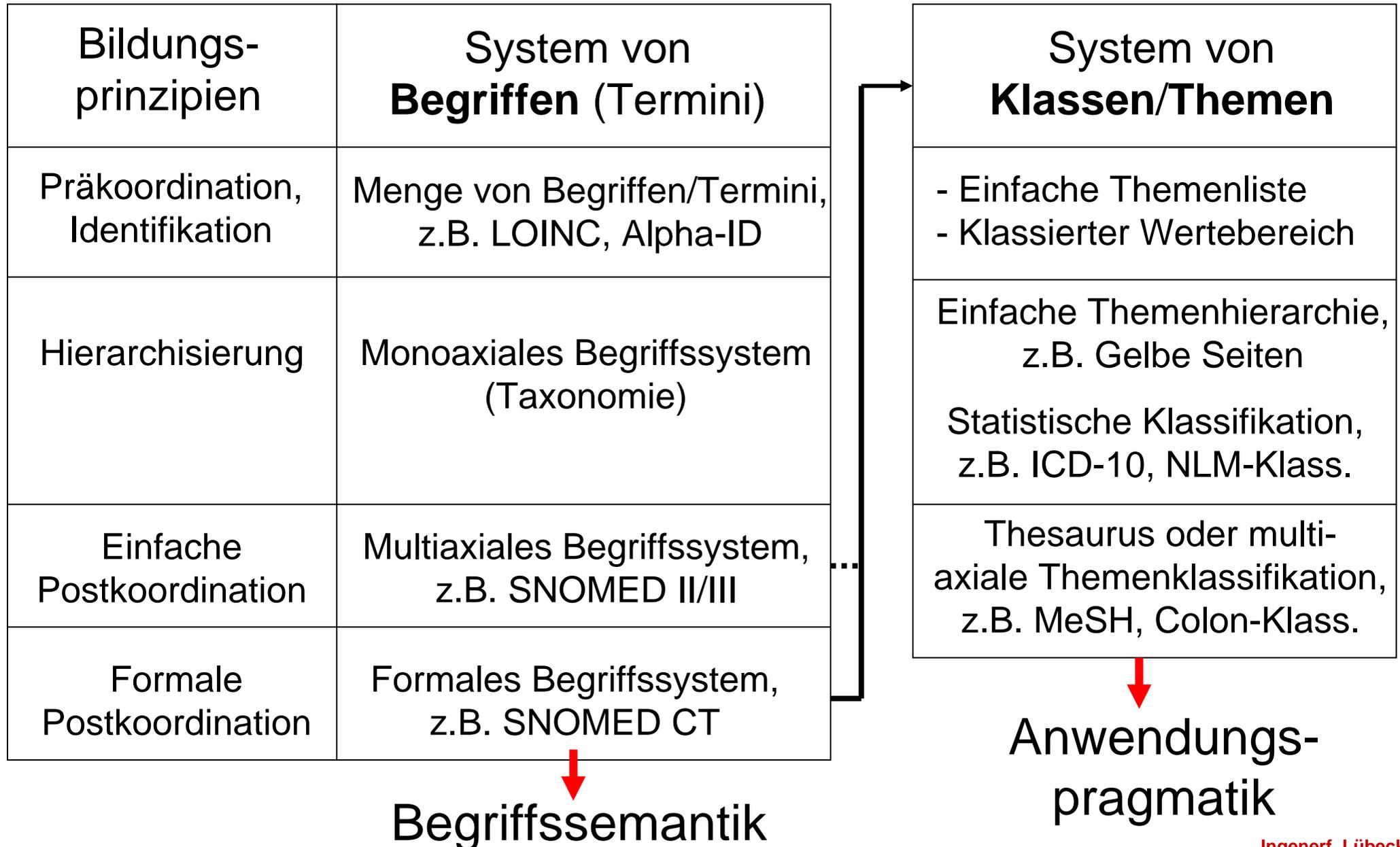


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- Typisierung von kontrollierten Vokabularien (GMDS 2005, Freiburg)
- Kontrollierte Vokabularien: Fortsetzung
 - "Logische Entscheidbarkeit und ontologische Adäquatheit"*
- Notwendigkeit einer Meta-Terminologie

Erinnerung an Typisierung (GMDS 2005, Freiburg)



Standardisierte Terminologien in der Medizin

Knaup, P. et al. (Heidelberg): iTMS - internetbasiertes Terminologie-Management-System für die Kooperative Forschung

Braun, P. et al. (Heidelberg): Aufbau eines Terminologiemanagementsystems für das Nationale Zentrum für Tumorerkrankungen (#232)

Klinisches
Inf.system_i, $i > 1$



Kontrolliertes
Vokabular

Standardisierte Terminologien in der Medizin

Linnarsson, R, Wigertz, OB (1989). *The Data Dictionary - A Controlled Vocabulary for Integrating Clinical Databases and Medical Knowledge Bases*. *Methods of Information in Medicine* 28 (2): 78-85.

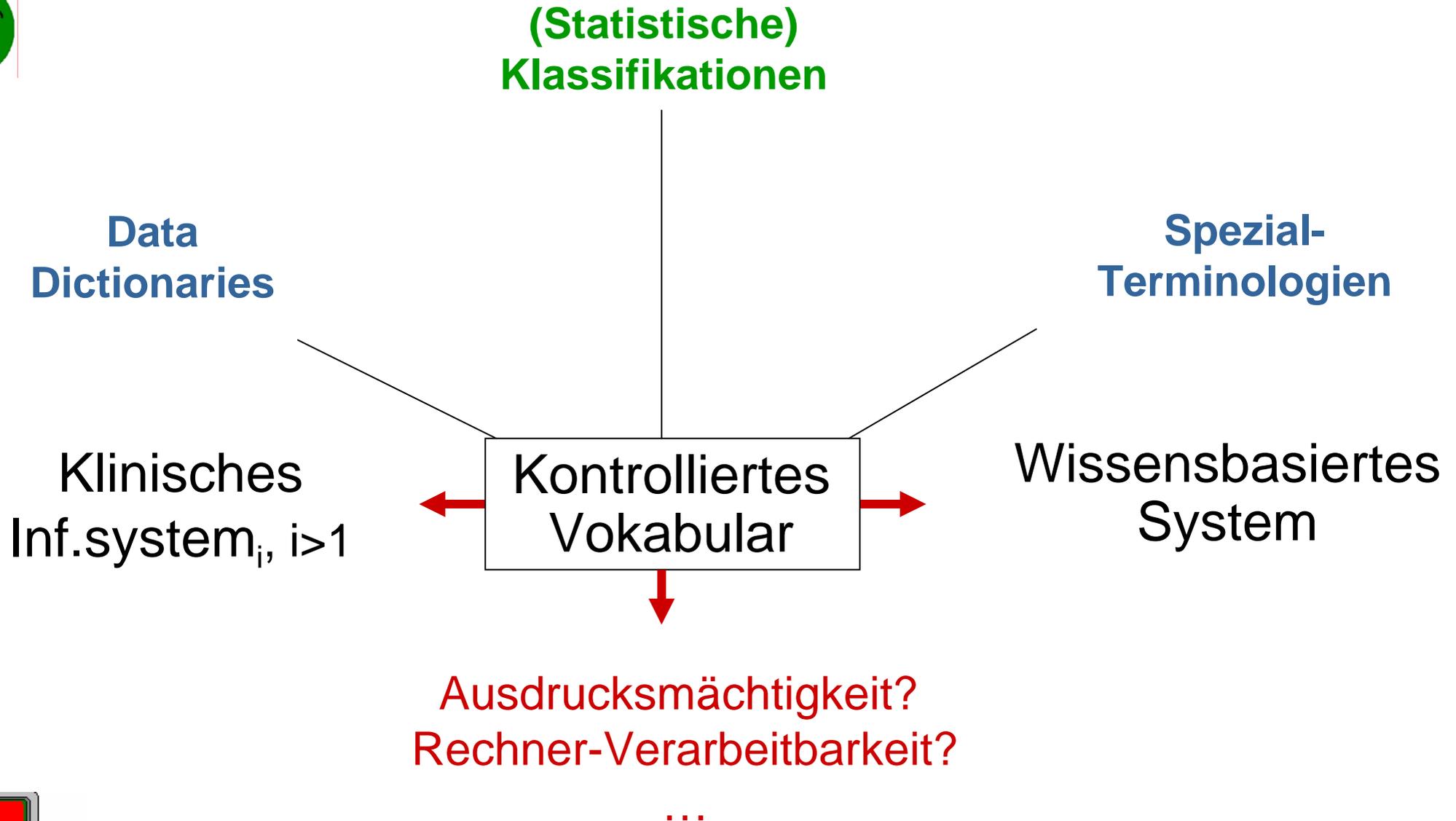
Bürkle, T (2000). *Klassifikation, Konzeption und Anwendung medizinischer Data Dictionaries*. Habilitationsschrift. Aachen: Shaker.

Klinisches
Inf.system_i, $i > 1$

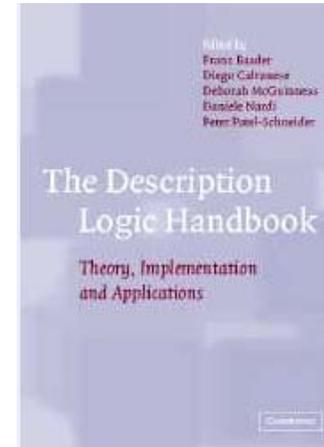
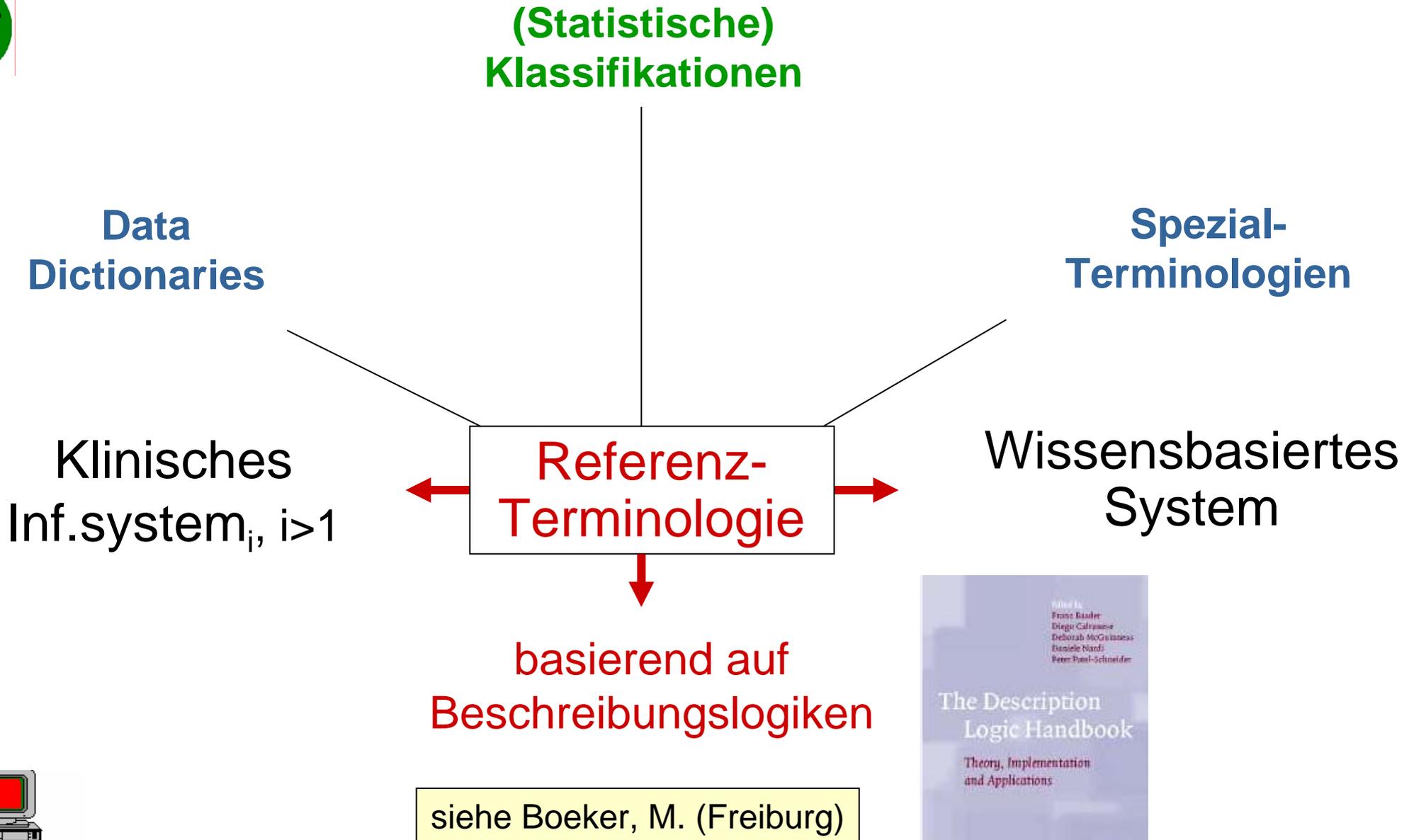


Wissensbasiertes
System

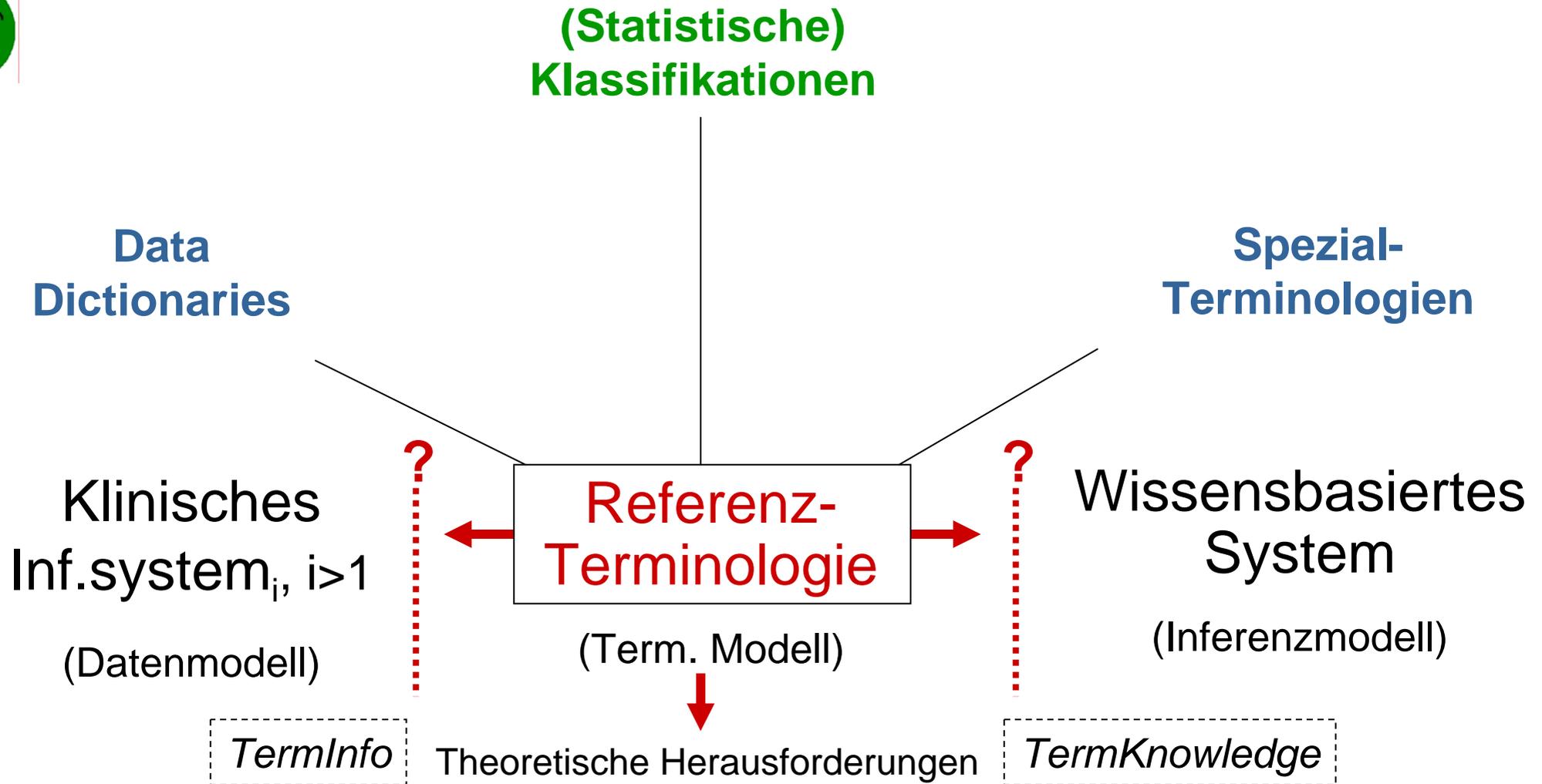
Standardisierte Terminologien in der Medizin



Standardisierte Terminologien in der Medizin



Standardisierte Terminologien in der Medizin



Rector, AL (2001). *The interface between information, terminology, and inference models*. In: Patel, V, et al. (eds.). Proc. of the MEDINFO 2001. Amsterdam: IOS Press, 246-250.



Anforderungen an rechnerverarbeitbare Terminologien

Cimino desiderata (ISO17117), z.B.

- Concept orientation
- Concept permanence
- Non-semantic identifiers
- Formal definitions
- Reject NEC
- Polyhierarchy
- ...

Ontologische Prinzipien

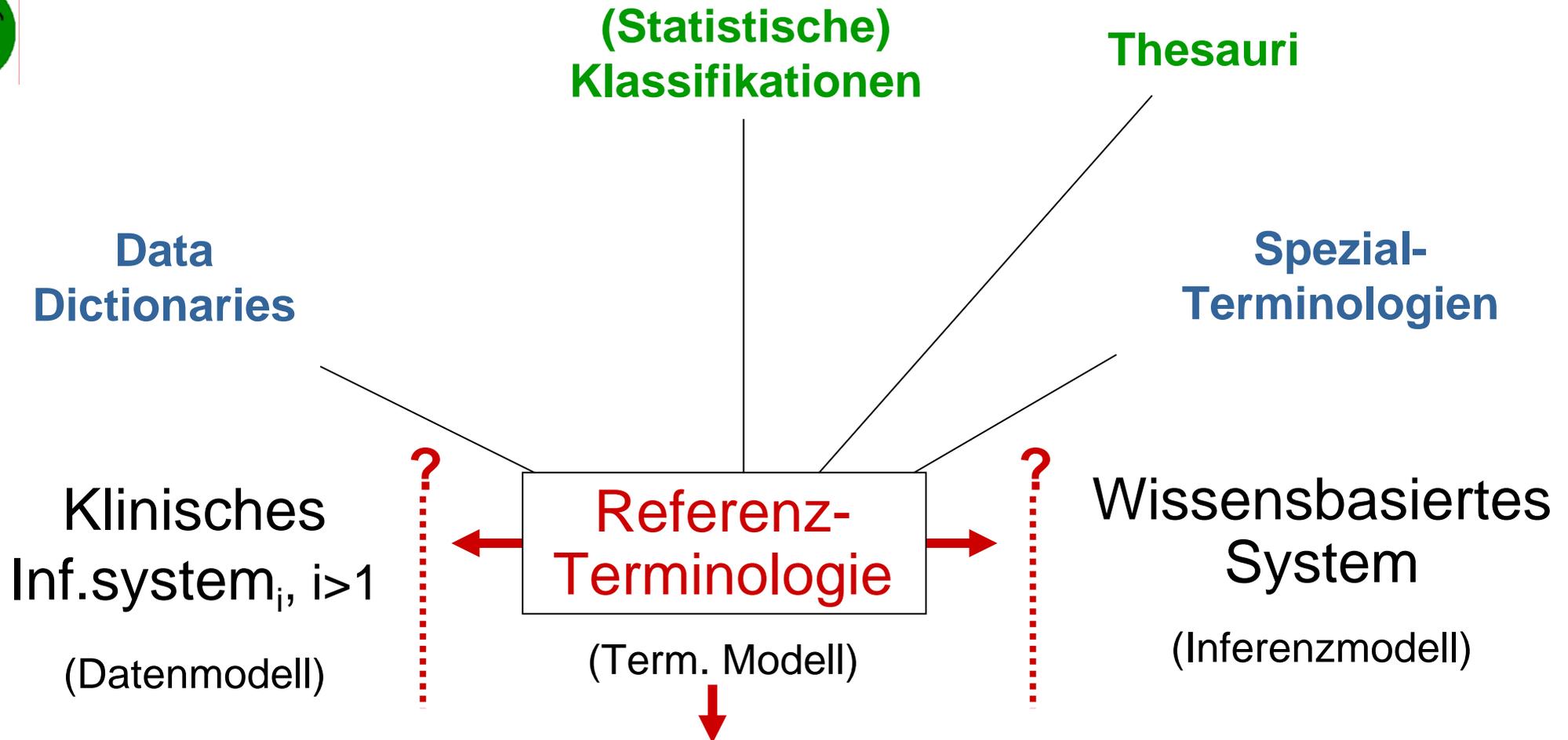
- Ontoclean-Methode (Guarino, ...)
- BFO, IFOMIS (Smith, ...)
- GFO, OntoMed (Herre, ...)
- ...

Bodenreider, O, Smith, B, Burgun, A (2004). *The Ontology-Epistemology Divide: A Case Study in Medical Terminology*. In: Varzi, A, Vieu, L. (ed.). Proc. FOIS 2004, Turin, 4-6. November 2004. Amsterdam: IOS-Press, 185-195.

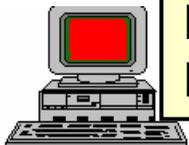
Spackman, KA, Reynoso, G (2004). *Examining SNOMED from the Perspective of Formal Ontological Principles: Some Preliminary Analysis and Observations*. In: Hahn, U (ed.). Proc. of KR-MED 2004, Whistler (BC), Canada, see <http://CEUR-WS.org/Vol-102/>, 72-80.

siehe F. Loebe (Leipzig), u.a. GFO (Ontology = formalized propositions)

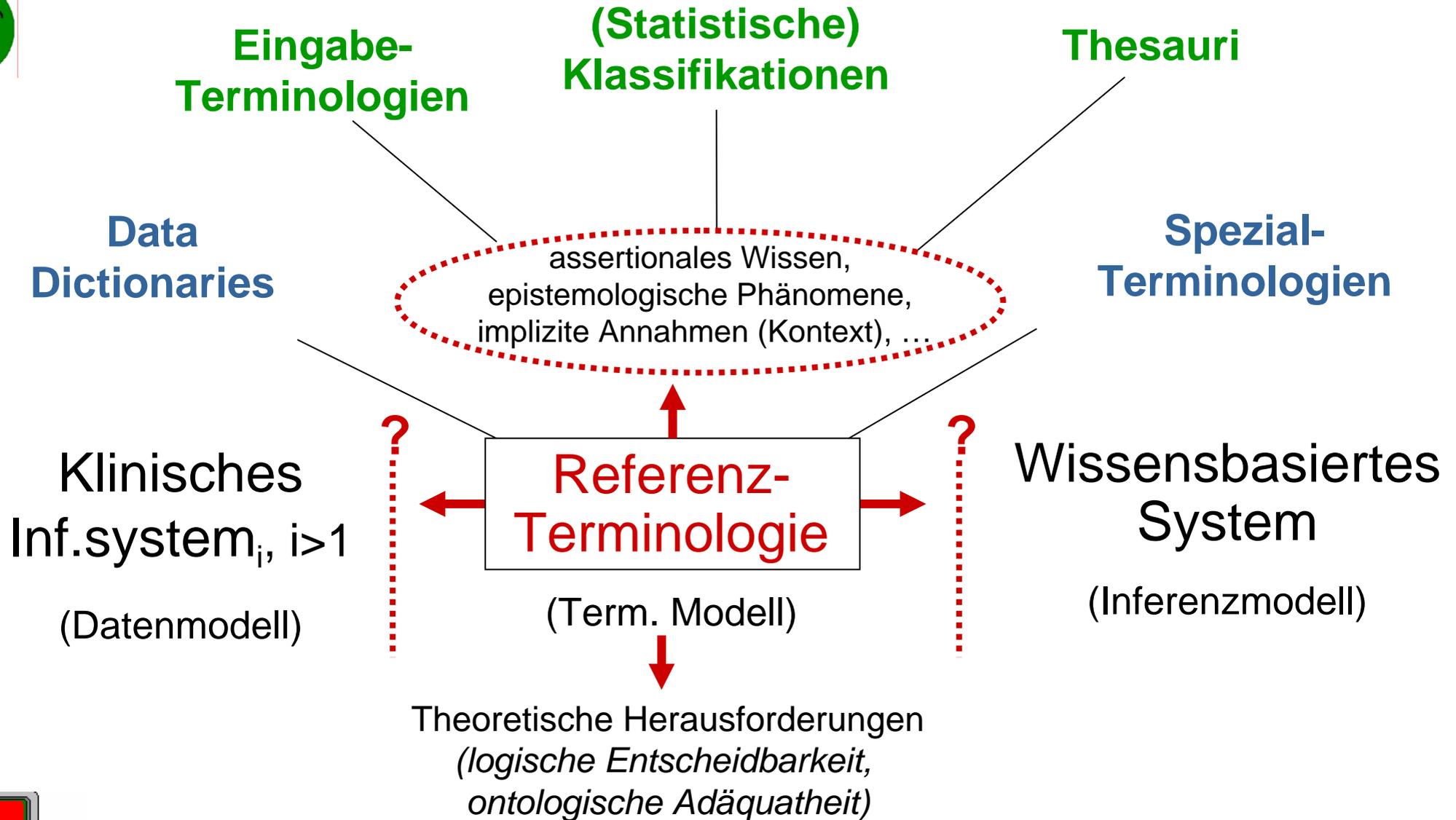
Standardisierte Terminologien in der Medizin



Ingenerf, J, Linder, R (2006). *Ontological Principles Applied to Biomedical Vocabularies*. In: Reichert, A, Mihalas, G, Stoicu-Tivadar, L, Schulz, S, Engelbrecht, R (eds.). Proceedings of the EFMI Special Topic Conference "Integrating Biomedical Information: From eCell to ePatient", April 6-8, 2006, Timisoara, Romania. Berlin: AKA-Verlag, 319-334.



Referenzterminologie: Mehrfachanforderungen (vereinbar?)



Notwendigkeit einer Meta-Terminologie

ISO/CD 17115

Reference number of working document: **ISO/TC 215/N 142**

Date: 12.10.03

Reference number of document: **ISO/CD 17115**

Committee Identification: **ISO/TC 215/WG 3**

Secretariat: **ANSI**

Health informatics – Vocabulary of terminological systems

Health informatics – Criteria for the Categorisation and Evaluation of Clinical Terminologies

Revision of ISO/TS 17117: 2002 Controlled health terminology – Structure and high-level indicators

Annex B Informative definitions

This Standard is within the scope of health informatics. Therefore it was decided to omit reference to the many other kinds of terminology that are defined and used outside of health informatics, such as dictionary, vocabulary, thesaurus, glossary, lexicon, nomenclature and others. There are several other kinds of terminology that are referred to in health informatics and are further described here to aid understanding of non-technical users of this Standard.

The terminological systems defined below are idealised constructs that help in understanding characteristics that support particular functions, as distinct from real terminology systems (none of which are wholly one nor another).

interface terminology

set of designations optimised for data entry by humans (human to machine)

NOTE may include pre coordinated terms and synonyms including abbreviations for rapid data entry

reference terminology

set of atomic level designations structured to support representations of both simple and compositional concepts independent of human language (within machine)

NOTE reference terminologies support mapping and subsequent aggregation

display terminology

set of designations optimised for presentation of data to humans (machine to human)

NOTE will have similar characteristics as interface terminology