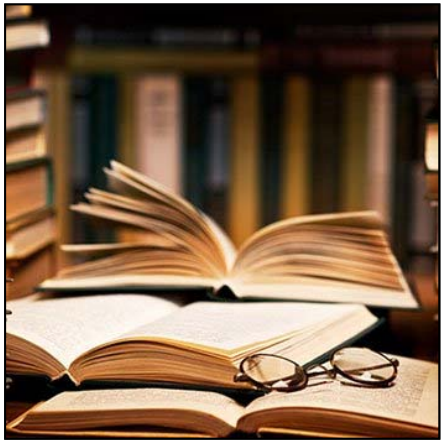
Scientific Communication & ScientificWriting

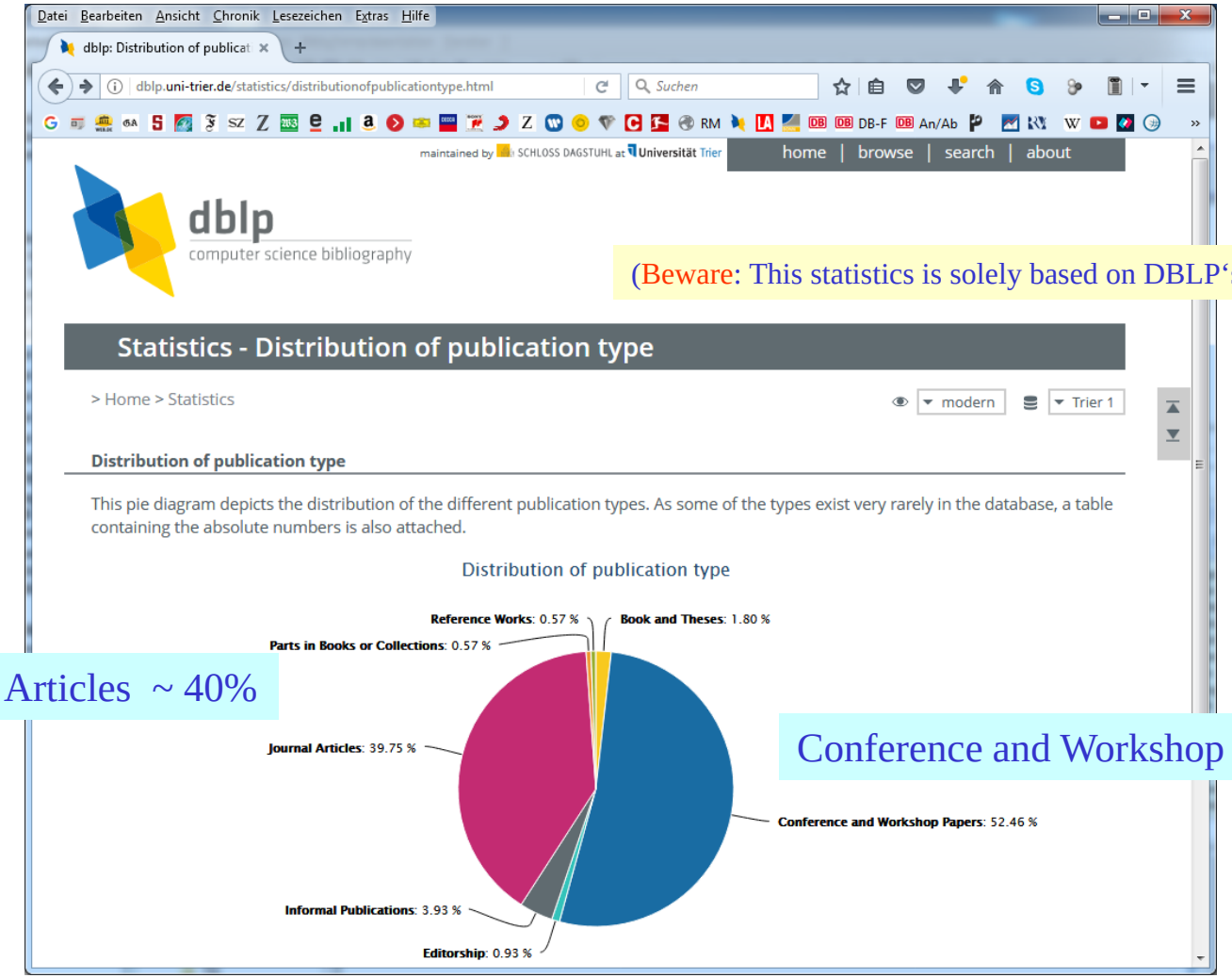
SS 2017



Research Articles

Attempting a Systematic Treatment

Main Categories of Publications According to DBLP



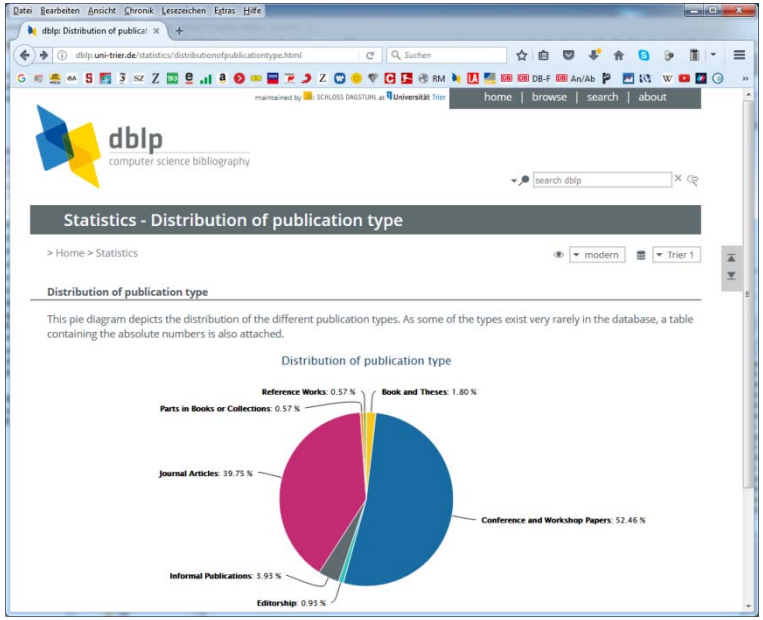
(Beware: This statistics is solely based on DBLP's own contents!)

Journal Articles ~ 40%

Conference and Workshop Papers ~ 52%

(Statistics page of DBLP, 14.5.2017)

Article vs. Paper: Appropriate Types of Documents, and Distinction



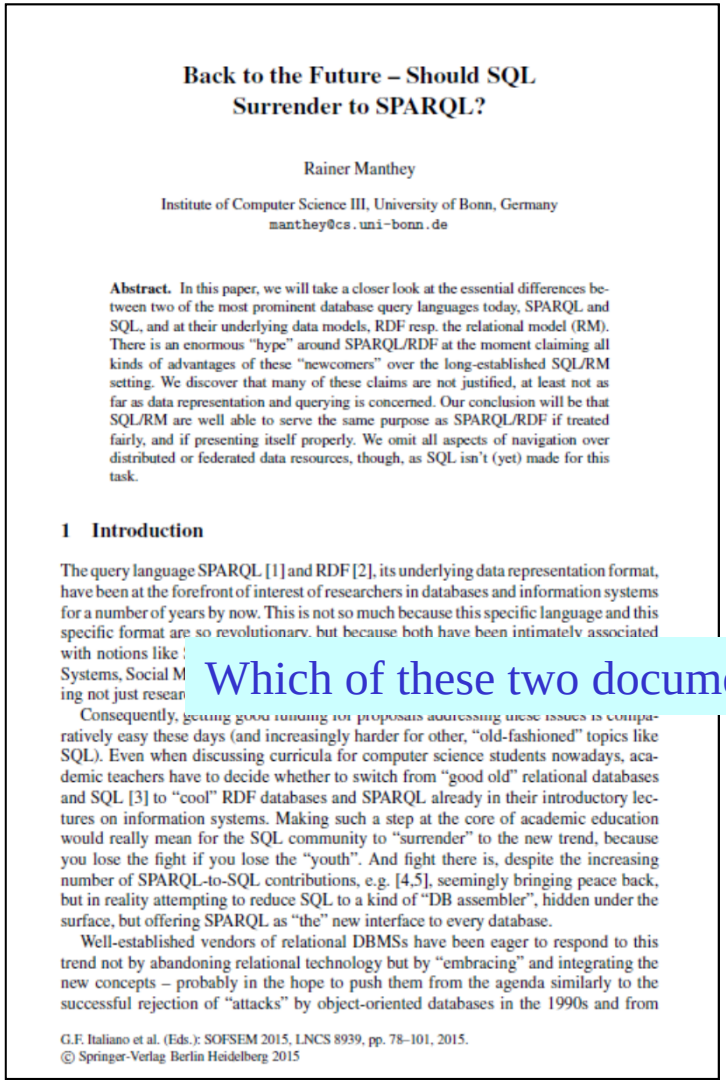
- This overview confirms that our claim made in the first SCSW lecture is (rather) well-founded (at least in CS):

  More than 90% of all publications referenced in DBLP belongs to the two categories called article or paper!
- Whether these numbers are firmly settled in CS in general (and apply even to other areas of science) remains open, but . . .
- . . . there is a rather high likelihood that this assumption forms a pretty reliable „working hypothesis“ for a lecture such as SCSW.

- Whether the terminology used („Conference and Workshop Paper“ and „Journal Article“) is based on a firmly established distiction made in science in general (or even in CS in particular) or just reflects a choice/decision made by the managing body of dblp-org is open, too – we will have a closer look at this question.

- Important other open questions:
  - Are there any characteristic properties that are specific (or even required) for each of these two types of documents (article/paper)?
  - Are the two notions referring to disjoint sets of objects (No article is a paper, and/or vice/versa?), or are there documents that could be published as either journal article or as a conference paper?
  - Is there any generally accepted ranking? Are journal articles more valuable than conference papers?

Article vs. Paper: „Who is Who?“



Back to the Future – Should SQL Surrender to SPARQL?

Rainer Manthey

Institute of Computer Science III, University of Bonn, Germany
manthey@cs.uni-bonn.de

Abstract. In this paper, we will take a closer look at the essential differences between two of the most prominent database query languages today, SPARQL and SQL, and at their underlying data models, RDF resp. the relational model (RM). There is an enormous "hype" around SPARQL/RDF at the moment claiming all kinds of advantages of these "newcomers" over the long-established SQL/RM setting. We discover that many of these claims are not justified, at least not as far as data representation and querying is concerned. Our conclusion will be that SQL/RM are well able to serve the same purpose as SPARQL/RDF if treated fairly, and if presenting itself properly. We omit all aspects of navigation over distributed or federated data resources, though, as SQL isn't (yet) made for this task.

1 Introduction

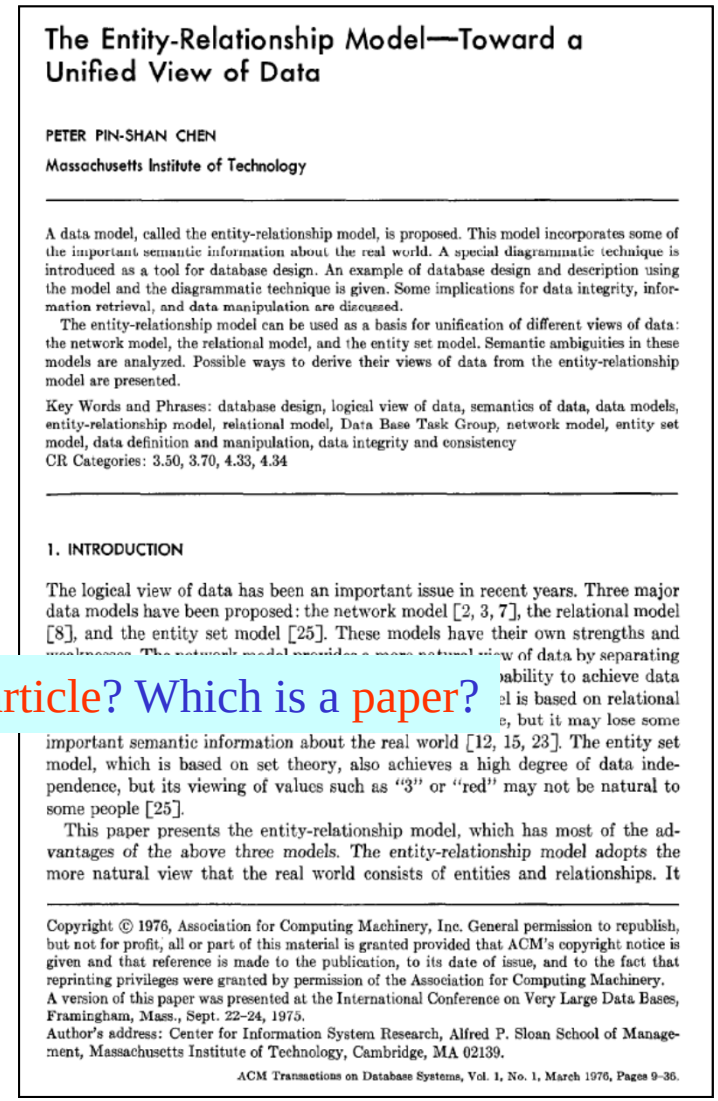
The query language SPARQL [1] and RDF [2], its underlying data representation format, have been at the forefront of interest of researchers in databases and information systems for a number of years by now. This is not so much because this specific language and this specific format are so revolutionary, but because both have been intimately associated with notions like
Systems, Social M
ing not just resear

Consequently, getting good funding for proposals addressing these issues is comparatively easy these days (and increasingly harder for other, "old-fashioned" topics like SQL). Even when discussing curricula for computer science students nowadays, academic teachers have to decide whether to switch from "good old" relational databases and SQL [3] to "cool" RDF databases and SPARQL already in their introductory lectures on information systems. Making such a step at the core of academic education would really mean for the SQL community to "surrender" to the new trend, because you lose the fight if you lose the "youth". And fight there is, despite the increasing number of SPARQL-to-SQL contributions, e.g. [4,5], seemingly bringing peace back, but in reality attempting to reduce SQL to a kind of "DB assembler", hidden under the surface, but offering SPARQL as "the" new interface to every database.

Well-established vendors of relational DBMSs have been eager to respond to this trend not by abandoning relational technology but by "embracing" and integrating the new concepts – probably in the hope to push them from the agenda similarly to the successful rejection of "attacks" by object-oriented databases in the 1990s and from

G.F. Italiano et al. (Eds.): SOFSEM 2015, LNCS 8939, pp. 78–101, 2015.

?



The Entity-Relationship Model—Toward a Unified View of Data

PETER PIN-SHAN CHEN

Massachusetts Institute of Technology

A data model, called the entity-relationship model, is proposed. This model incorporates some of the important semantic information about the real world. A special diagrammatic technique is introduced as a tool for database design. An example of database design and description using the model and the diagrammatic technique is given. Some implications for data integrity, information retrieval, and data manipulation are discussed.

The entity-relationship model can be used as a basis for unification of different views of data: the network model, the relational model, and the entity set model. Semantic ambiguities in these models are analyzed. Possible ways to derive their views of data from the entity-relationship model are presented.

Key Words and Phrases: database design, logical view of data, semantics of data, data models, entity-relationship model, relational model, Data Base Task Group, network model, entity set model, data definition and manipulation, data integrity and consistency
CR Categories: 3.50, 3.70, 4.33, 4.34

1. INTRODUCTION

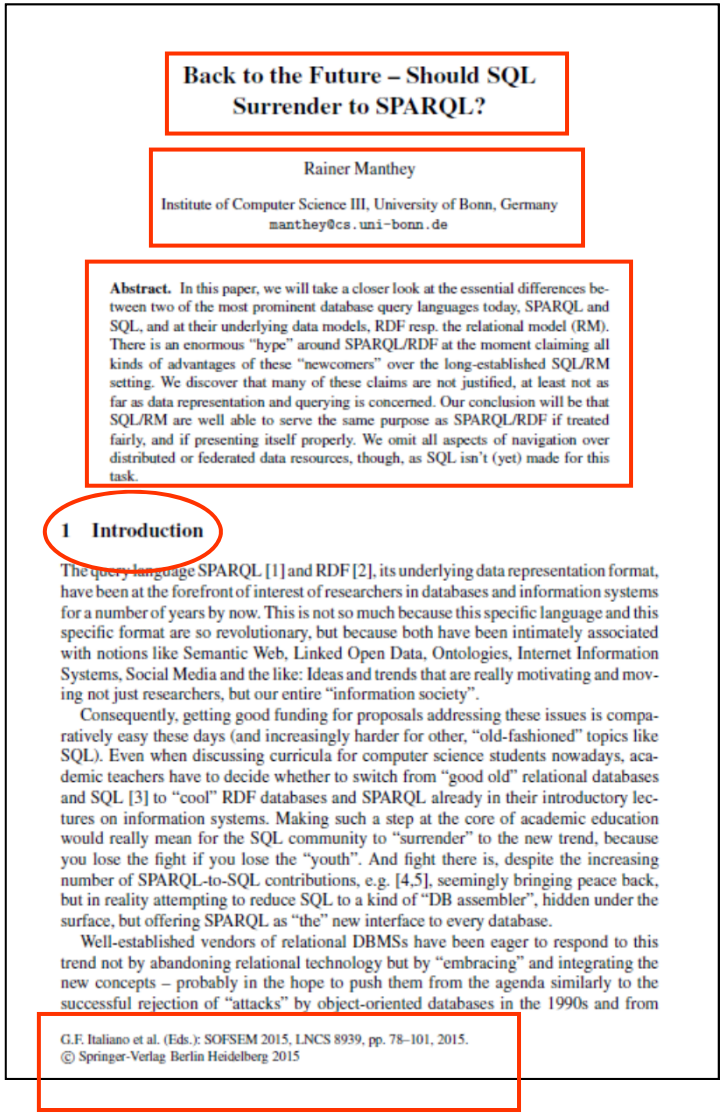
The logical view of data has been an important issue in recent years. Three major data models have been proposed: the network model [2, 3, 7], the relational model [8], and the entity set model [25]. These models have their own strengths and
w of data by separating
ability to achieve data
el is based on relational
e, but it may lose some
important semantic information about the real world [12, 15, 23]. The entity set model, which is based on set theory, also achieves a high degree of data independence, but its viewing of values such as "3" or "red" may not be natural to some people [25].

This paper presents the entity-relationship model, which has most of the advantages of the above three models. The entity-relationship model adopts the more natural view that the real world consists of entities and relationships. It

A version of this paper was presented at the International Conference on Very Large Data Bases, Framingham, Mass., Sept. 22–24, 1975.
Author's address: Center for Information System Research, Alfred P. Sloan School of Management, Massachusetts Institute of Technology, Cambridge, MA 02139.

Which of these two documents is an article? Which is a paper?

Article vs. Paper: Any „Visible“ Difference?



Back to the Future – Should SQL Surrender to SPARQL?

Rainer Manthey

Institute of Computer Science III, University of Bonn, Germany
manthey@cs.uni-bonn.de

Abstract. In this paper, we will take a closer look at the essential differences between two of the most prominent database query languages today, SPARQL and SQL, and at their underlying data models, RDF resp. the relational model (RM). There is an enormous "hype" around SPARQL/RDF at the moment claiming all kinds of advantages of these "newcomers" over the long-established SQL/RM setting. We discover that many of these claims are not justified, at least not as far as data representation and querying is concerned. Our conclusion will be that SQL/RM are well able to serve the same purpose as SPARQL/RDF if treated fairly, and if presenting itself properly. We omit all aspects of navigation over distributed or federated data resources, though, as SQL isn't (yet) made for this task.

1 Introduction

The query language SPARQL [1] and RDF [2], its underlying data representation format, have been at the forefront of interest of researchers in databases and information systems for a number of years by now. This is not so much because this specific language and this specific format are so revolutionary, but because both have been intimately associated with notions like Semantic Web, Linked Open Data, Ontologies, Internet Information Systems, Social Media and the like: Ideas and trends that are really motivating and moving not just researchers, but our entire "information society".

Consequently, getting good funding for proposals addressing these issues is comparatively easy these days (and increasingly harder for other, "old-fashioned" topics like SQL). Even when discussing curricula for computer science students nowadays, academic teachers have to decide whether to switch from "good old" relational databases and SQL [3] to "cool" RDF databases and SPARQL already in their introductory lectures on information systems. Making such a step at the core of academic education would really mean for the SQL community to "surrender" to the new trend, because you lose the fight if you lose the "youth". And fight there is, despite the increasing number of SPARQL-to-SQL contributions, e.g. [4,5], seemingly bringing peace back, but in reality attempting to reduce SQL to a kind of "DB assembler", hidden under the surface, but offering SPARQL as "the" new interface to every database.

Well-established vendors of relational DBMSs have been eager to respond to this trend not by abandoning relational technology but by "embracing" and integrating the new concepts – probably in the hope to push them from the agenda similarly to the successful rejection of "attacks" by object-oriented databases in the 1990s and from

G.F. Italiano et al. (Eds.): SOFSEM 2015, LNCS 8939, pp. 78–101, 2015.

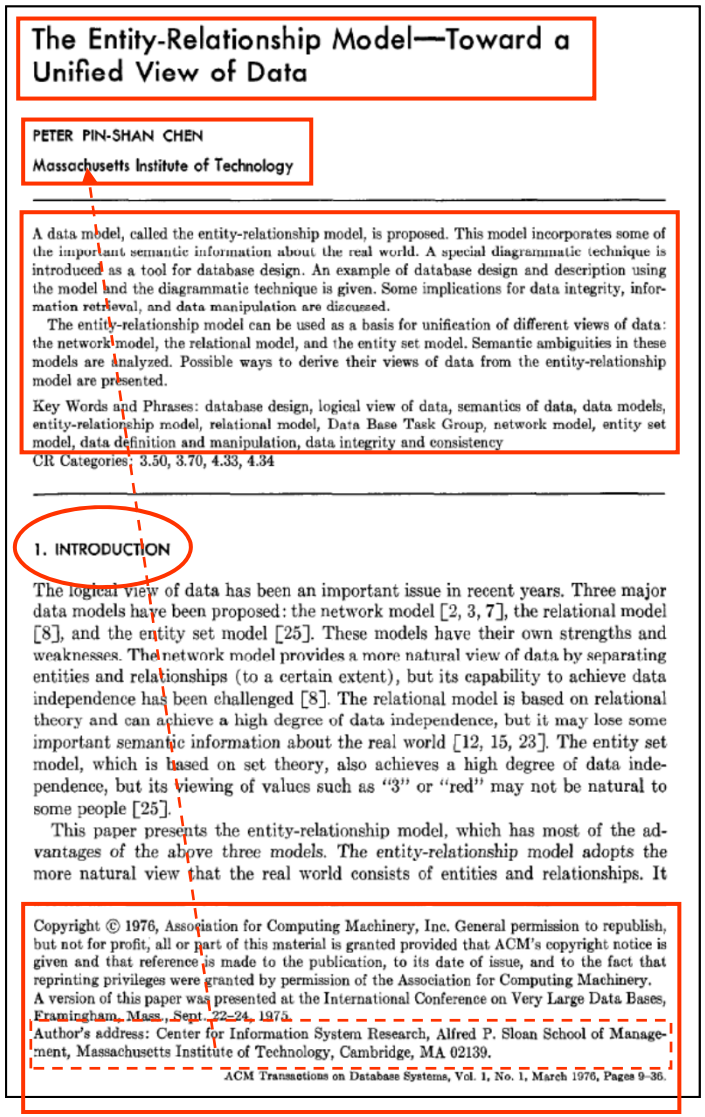
Title

Author
(and Affiliation)

Abstract

Introduction

„Meta-Data“



The Entity-Relationship Model—Toward a Unified View of Data

PETER PIN-SHAN CHEN
Massachusetts Institute of Technology

A data model, called the entity-relationship model, is proposed. This model incorporates some of the important semantic information about the real world. A special diagrammatic technique is introduced as a tool for database design. An example of database design and description using the model and the diagrammatic technique is given. Some implications for data integrity, information retrieval, and data manipulation are discussed.

The entity-relationship model can be used as a basis for unification of different views of data: the network model, the relational model, and the entity set model. Semantic ambiguities in these models are analyzed. Possible ways to derive their views of data from the entity-relationship model are presented.

Key Words and Phrases: database design, logical view of data, semantics of data, data models, entity-relationship model, relational model, Data Base Task Group, network model, entity set model, data definition and manipulation, data integrity and consistency
CR Categories: 3.50, 3.70, 4.33, 4.34

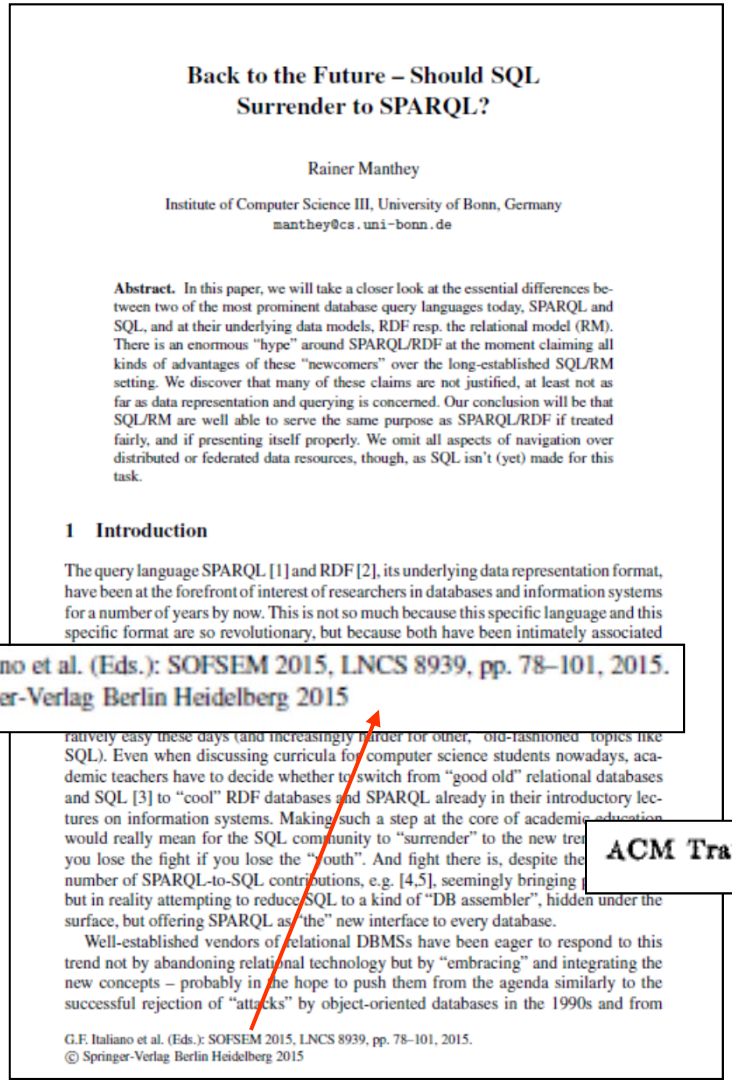
1. INTRODUCTION

The logical view of data has been an important issue in recent years. Three major data models have been proposed: the network model [2, 3, 7], the relational model [8], and the entity set model [25]. These models have their own strengths and weaknesses. The network model provides a more natural view of data by separating entities and relationships (to a certain extent), but its capability to achieve data independence has been challenged [8]. The relational model is based on relational theory and can achieve a high degree of data independence, but it may lose some important semantic information about the real world [12, 15, 23]. The entity set model, which is based on set theory, also achieves a high degree of data independence, but its viewing of values such as "3" or "red" may not be natural to some people [25].

This paper presents the entity-relationship model, which has most of the advantages of the above three models. The entity-relationship model adopts the more natural view that the real world consists of entities and relationships. It

A version of this paper was presented at the International Conference on Very Large Data Bases, Framingham, Mass., Sept. 22–24, 1975.
Author's address: Center for Information System Research, Alfred P. Sloan School of Management, Massachusetts Institute of Technology, Cambridge, MA 02139.
ACM Transactions on Database Systems, Vol. 1, No. 1, March 1976, Pages 9–36.

Article vs. Paper: Looking at the „Meta-Data“ Helps



Back to the Future – Should SQL Surrender to SPARQL?

Rainer Manthey

Institute of Computer Science III, University of Bonn, Germany
manthey@cs.uni-bonn.de

Abstract. In this paper, we will take a closer look at the essential differences between two of the most prominent database query languages today, SPARQL and SQL, and at their underlying data models, RDF resp. the relational model (RM). There is an enormous "hype" around SPARQL/RDF at the moment claiming all kinds of advantages of these "newcomers" over the long-established SQL/RM setting. We discover that many of these claims are not justified, at least not as far as data representation and querying is concerned. Our conclusion will be that SQL/RM are well able to serve the same purpose as SPARQL/RDF if treated fairly, and if presenting itself properly. We omit all aspects of navigation over distributed or federated data resources, though, as SQL isn't (yet) made for this task.

1 Introduction

The query language SPARQL [1] and RDF [2], its underlying data representation format, have been at the forefront of interest of researchers in databases and information systems for a number of years by now. This is not so much because this specific language and this specific format are so revolutionary, but because both have been intimately associated

G.F. Italiano et al. (Eds.): SOFSEM 2015, LNCS 8939, pp. 78–101, 2015.

ratively easy these days (and increasingly harder for other, "old-fashioned" topics like SQL). Even when discussing curricula for computer science students nowadays, academic teachers have to decide whether to switch from "good old" relational databases and SQL [3] to "cool" RDF databases and SPARQL already in their introductory lectures on information systems. Making such a step at the core of academic education would really mean for the SQL community to "surrender" to the new trend: you lose the fight if you lose the "youth". And fight there is, despite the number of SPARQL-to-SQL contributions, e.g. [4,5], seemingly bringing [illegible] but in reality attempting to reduce SQL to a kind of "DB assembler", hidden under the surface, but offering SPARQL as "the" new interface to every database.

Well-established vendors of relational DBMSs have been eager to respond to this trend not by abandoning relational technology but by "embracing" and integrating the new concepts – probably in the hope to push them from the agenda similarly to the successful rejection of "attacks" by object-oriented databases in the 1990s and from

G.F. Italiano et al. (Eds.): SOFSEM 2015, LNCS 8939, pp. 78–101, 2015.
© Springer-Verlag Berlin Heidelberg 2015

The Entity-Relationship Model—Toward a Unified View of Data

PETER PIN-SHAN CHEN

Massachusetts Institute of Technology

A data model, called the entity-relationship model, is proposed. This model incorporates some of the important semantic information about the real world. A special diagrammatic technique is introduced as a tool for database design. An example of database design and description using the model and the diagrammatic technique is given. Some implications for data integrity, information retrieval, and data manipulation are discussed.

The entity-relationship model can be used as a basis for unification of different views of data: the network model, the relational model, and the entity set model. Semantic ambiguities in these models are analyzed. Possible ways to derive their views of data from the entity-relationship model are presented.

Key Words and Phrases: database design, logical view of data, semantics of data, data models, entity-relationship model, relational model, Data Base Task Group, network model, entity set model, data definition and manipulation, data integrity and consistency
CR Categories: 3.50, 3.70, 4.33, 4.34

1. INTRODUCTION

The logical view of data has been an important issue in recent years. Three major data models have been proposed: the network model [2, 3, 7], the relational model [8], and the entity set model [25]. These models have their own strengths and weaknesses. The network model provides a more natural view of data by separating entities and relationships (to a certain extent), but its capability to achieve data independence has been challenged [8]. The relational model is based on relational theory and can achieve a high degree of data independence, but it may lose some important semantic information about the real world [12, 15, 23]. The entity set model, which is based on set theory, also achieves a high degree of data independence, but its viewing of values such as "3" or "red" may not be natural to some people [25].

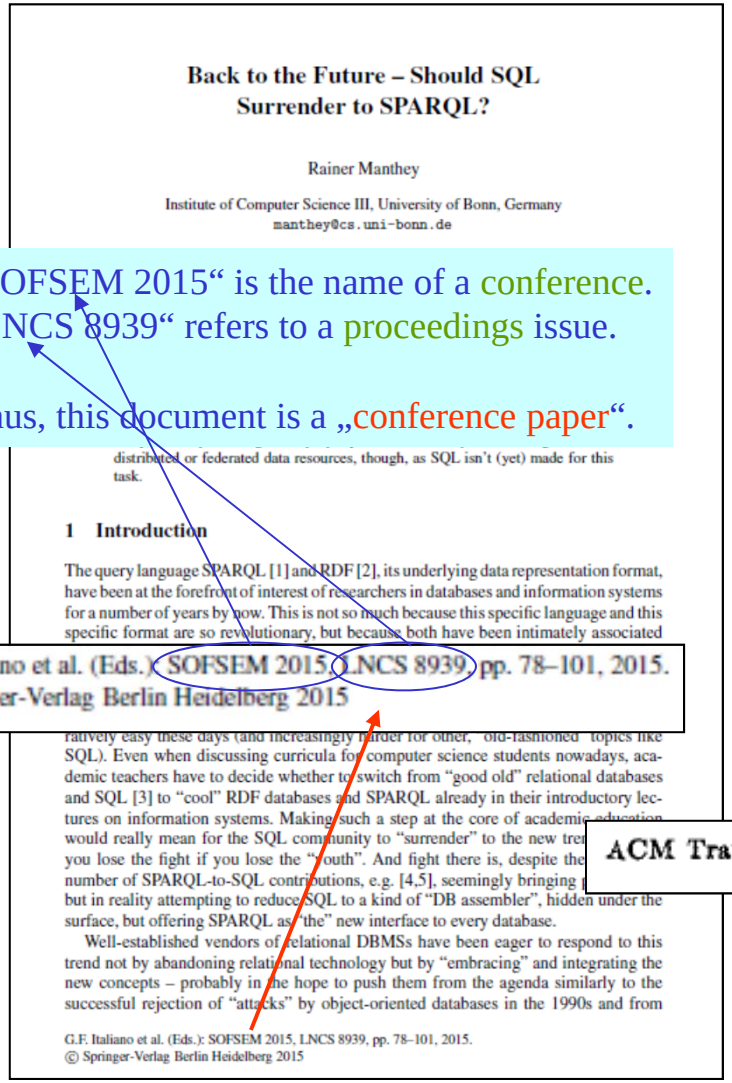
This paper presents the entity-relationship model, which has most of the ad-

ACM Transactions on Database Systems, Vol. 1, No. 1, March 1976, Pages 9–36.

A version of this paper was presented at the International Conference on Very Large Data Bases, Framingham, Mass., Sept. 22–24, 1975.
Author's address: Center for Information System Research, Alfred P. Sloan School of Management, Massachusetts Institute of Technology, Cambridge, MA 02139.

ACM Transactions on Database Systems, Vol. 1, No. 1, March 1976, Pages 9–36.

Article vs. Paper: Conference vs. Journal



Back to the Future – Should SQL Surrender to SPARQL?

Rainer Manthey

Institute of Computer Science III, University of Bonn, Germany
manthey@cs.uni-bonn.de

„SOFSEM 2015“ is the name of a conference.
„LNCS 8939“ refers to a proceedings issue.

Thus, this document is a „conference paper“.

distributed or federated data resources, though, as SQL isn't (yet) made for this task.

1 Introduction

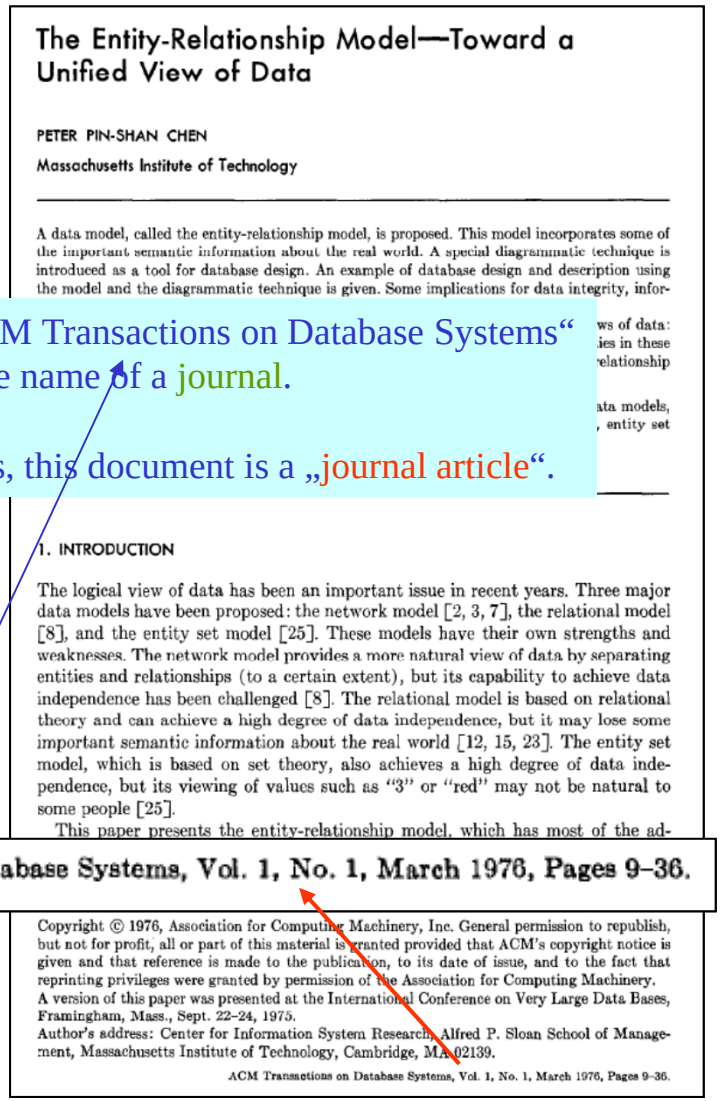
The query language SPARQL [1] and RDF [2], its underlying data representation format, have been at the forefront of interest of researchers in databases and information systems for a number of years by now. This is not so much because this specific language and this specific format are so revolutionary, but because both have been intimately associated

G.F. Italiano et al. (Eds.): SOFSEM 2015, LNCS 8939, pp. 78–101, 2015.
© Springer-Verlag Berlin Heidelberg 2015

ratively easy these days (and increasingly harder for other, "old-fashioned" topics like SQL). Even when discussing curricula for computer science students nowadays, academic teachers have to decide whether to switch from "good old" relational databases and SQL [3] to "cool" RDF databases and SPARQL already in their introductory lectures on information systems. Making such a step at the core of academic education would really mean for the SQL community to "surrender" to the new trend: you lose the fight if you lose the "youth". And fight there is, despite the number of SPARQL-to-SQL contributions, e.g. [4,5], seemingly bringing [illegible] but in reality attempting to reduce SQL to a kind of "DB assembler", hidden under the surface, but offering SPARQL as "the" new interface to every database.

Well-established vendors of relational DBMSs have been eager to respond to this trend not by abandoning relational technology but by "embracing" and integrating the new concepts – probably in the hope to push them from the agenda similarly to the successful rejection of "attacks" by object-oriented databases in the 1990s and from

G.F. Italiano et al. (Eds.): SOFSEM 2015, LNCS 8939, pp. 78–101, 2015.
© Springer-Verlag Berlin Heidelberg 2015



The Entity-Relationship Model—Toward a Unified View of Data

PETER PIN-SHAN CHEN

Massachusetts Institute of Technology

A data model, called the entity-relationship model, is proposed. This model incorporates some of the important semantic information about the real world. A special diagrammatic technique is introduced as a tool for database design. An example of database design and description using the model and the diagrammatic technique is given. Some implications for data integrity, infor-

„ACM Transactions on Database Systems“ is the name of a journal.

Thus, this document is a „journal article“.

1. INTRODUCTION

The logical view of data has been an important issue in recent years. Three major data models have been proposed: the network model [2, 3, 7], the relational model [8], and the entity set model [25]. These models have their own strengths and weaknesses. The network model provides a more natural view of data by separating entities and relationships (to a certain extent), but its capability to achieve data independence has been challenged [8]. The relational model is based on relational theory and can achieve a high degree of data independence, but it may lose some important semantic information about the real world [12, 15, 23]. The entity set model, which is based on set theory, also achieves a high degree of data independence, but its viewing of values such as "3" or "red" may not be natural to some people [25].

This paper presents the entity-relationship model, which has most of the ad-

ACM Transactions on Database Systems, Vol. 1, No. 1, March 1976, Pages 9–36.

Copyright © 1976, Association for Computing Machinery, Inc. General permission to republish, but not for profit, all or part of this material is granted provided that ACM's copyright notice is given and that reference is made to the publication, to its date of issue, and to the fact that reprinting privileges were granted by permission of the Association for Computing Machinery.
A version of this paper was presented at the International Conference on Very Large Data Bases, Framingham, Mass., Sept. 22–24, 1975.
Author's address: Center for Information System Research, Alfred P. Sloan School of Management, Massachusetts Institute of Technology, Cambridge, MA 02139.

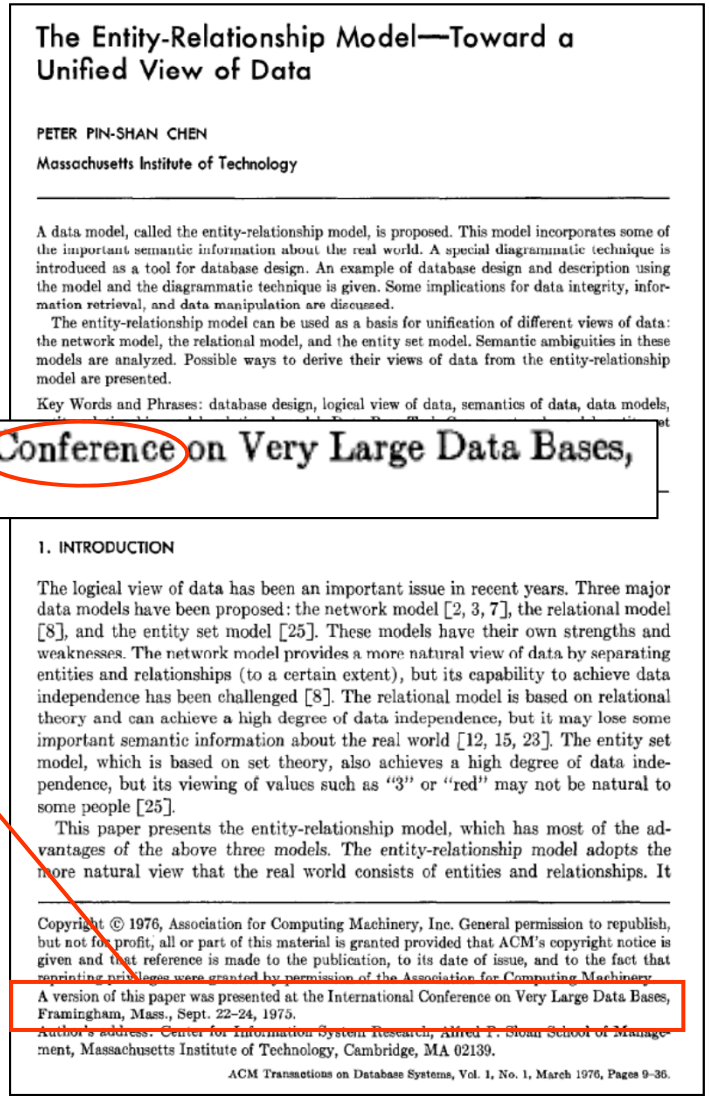
ACM Transactions on Database Systems, Vol. 1, No. 1, March 1976, Pages 9–36.

Article vs. Paper: One Document, Two Versions?

Is the „version of“ of the journal article the same document as the conference paper?

A version of this paper was presented at the International Conference on Very Large Data Bases, Framingham, Mass., Sept. 22–24, 1975.

Is this document a „paper“ or an „article“?



The Entity-Relationship Model—Toward a Unified View of Data

PETER PIN-SHAN CHEN

Massachusetts Institute of Technology

A data model, called the entity-relationship model, is proposed. This model incorporates some of the important semantic information about the real world. A special diagrammatic technique is introduced as a tool for database design. An example of database design and description using the model and the diagrammatic technique is given. Some implications for data integrity, information retrieval, and data manipulation are discussed.

The entity-relationship model can be used as a basis for unification of different views of data: the network model, the relational model, and the entity set model. Semantic ambiguities in these models are analyzed. Possible ways to derive their views of data from the entity-relationship model are presented.

Key Words and Phrases: database design, logical view of data, semantics of data, data models,

1. INTRODUCTION

The logical view of data has been an important issue in recent years. Three major data models have been proposed: the network model [2, 3, 7], the relational model [8], and the entity set model [25]. These models have their own strengths and weaknesses. The network model provides a more natural view of data by separating entities and relationships (to a certain extent), but its capability to achieve data independence has been challenged [8]. The relational model is based on relational theory and can achieve a high degree of data independence, but it may lose some important semantic information about the real world [12, 15, 23]. The entity set model, which is based on set theory, also achieves a high degree of data independence, but its viewing of values such as "3" or "red" may not be natural to some people [25].

This paper presents the entity-relationship model, which has most of the advantages of the above three models. The entity-relationship model adopts the more natural view that the real world consists of entities and relationships. It

A version of this paper was presented at the International Conference on Very Large Data Bases, Framingham, Mass., Sept. 22–24, 1975.

Author's address: Center for Information System Research, Alfred P. Sloan School of Management, Massachusetts Institute of Technology, Cambridge, MA 02139.

ACM Transactions on Database Systems, Vol. 1, No. 1, March 1976, Pages 9–36.

Article Instead of Paper: A „Subjective“ Decision in This Lecture

- Both categories (article and paper) consist of individual (scientific) documents published as separate parts of a collective publication unit (journal or book).
- An agreed naming convention does not seam to exist – both terms (article/paper) are considered synonymous in many sources.
- A particular attribution of any of the two names to either journal or proceedings context of collective publication is not observable either.
- Thus: We will treat the two notions as synonyms in this lecture –acknowledging that they are distinguished (systematically) in other places (e.g., in DBLP).
- However, we will prefer the term „article“ (and try to avoid the variant „paper“ in the following), thus reflecting that such documents are presently made available mainly in digital form.
- Thus, calling them „paper“ (referring to the „old“ physical format) appears to be to become more and more inappropriate – even though digital documents, of course, can be printed easily (and printed „papers“ scanned and thus digitized as easily, too).

Journal vs. Conference Article

- Even though we will use the same term if referring to individual scientific documents containing scientific results attributed entirely to the/those person(s) named as author(s) of the article . . .

- . . . we will still continue to clearly distinguish the clearly different scientific context in which the resp. article has been published:

    - journal article
    - conference article

- Here the notion „conference“ is again treated as a term expressing that the resp. article has been prepared for (and presented at) a scientific event (a convention of scientists) and has been published within the collection of all articles of that event (in most cases called a proceedings issue).

- Other types of similarly organized events, such as symposia, workshops etc., are thus subsumed by the more generic name „conference“.

- Once again, we don‘t report about any generally agreed form of „standardization“.

Libraries vs. Catalogues – Physical vs. Digital

Libraries vs. Catalogues (2)

- There are two types of institutions that have been established in the context of document keeping (in science and/or elsewhere): Libraries and catalogues.

- Library (lat.: liber = book) is the main term, originally only referring to places for keeping (and „using“) written documents:

> A **library** is a collection of sources of information and similar resources, made accessible to a defined community for reference or borrowing.
>
> It provides **physical** or **digital** access to material, and may be a physical building or room, or a virtual space, or both.

(Wikipedia, Engl., 14.5.2017)

- Catalogue is a secondary concept originally firmly related to every library. Catalogues are both, physical or digital/virtual by now, too. Particularly digital catalogues may exist individually, too.

> A library **catalog** or library **catalogue** is a register of all bibliographic items found in a library or group of libraries, . . . A bibliographic item can be any information entity . . . that is considered library material . . .

(Wikipedia, Engl., 14.5.2017)

Libraries vs. Catalogues (3)

- A few „trivial“ consequences of the terminology settings on the last slide:

> There are no books (or articles) in a catalogue!
>
> There are no data (about books or articles) in a library!

- The „bibliographic data“ in a catalogue refer to the „bibliographic items“ in one (or several) libraries. These library items are the primary objects of interest in connection with scientific literature in particular.

- (Almost) every library has its own catalogue registering all (?) the items it contains in terms of data entries. The data in a catalogue are the secondary „objects“ of interest in connection with literature. They reference the primary objects, not vice versa.

- It is important to keep the distinction between these two concepts very clearly in mind. In the digital „era“, catalogues gain a more and more important (and independent) role, often „de-coupling“ them from a particular library. More and more, catalogues start referencing „objects“ from the context of keeping „bibliographic items“ (which are no such „bibliographic items“ anymore, e.g. authors, events, publishing organisations etc.) .

Digital Systems in the Context of Scientific Documents

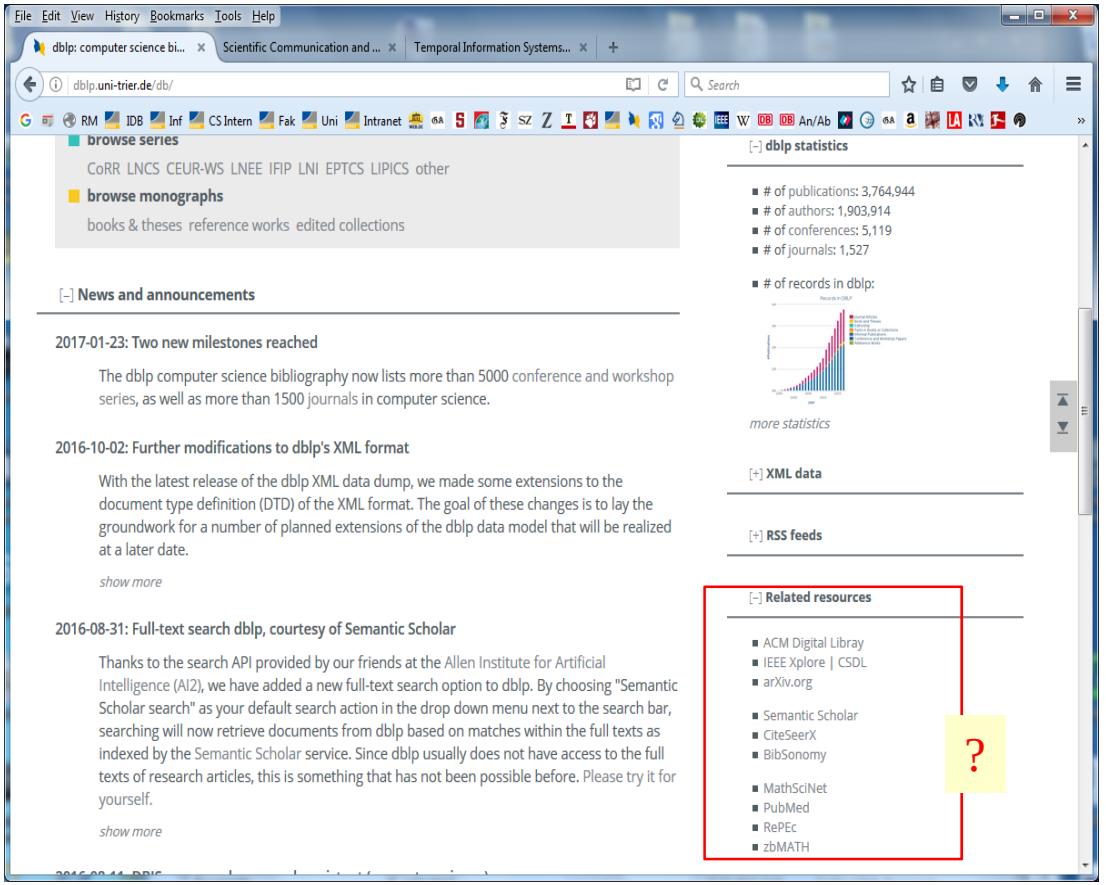
- It is getting increasingly difficult (at least non-obvious) to classify web-based services in connection with keeping (information about) scientific literature with respect to the established distinction library/catalogue.

- Google Scholar and DBPL (the systems used in this lecture up till now) don‘t call themselves library or catalogue. Do these systems belong into these categories?

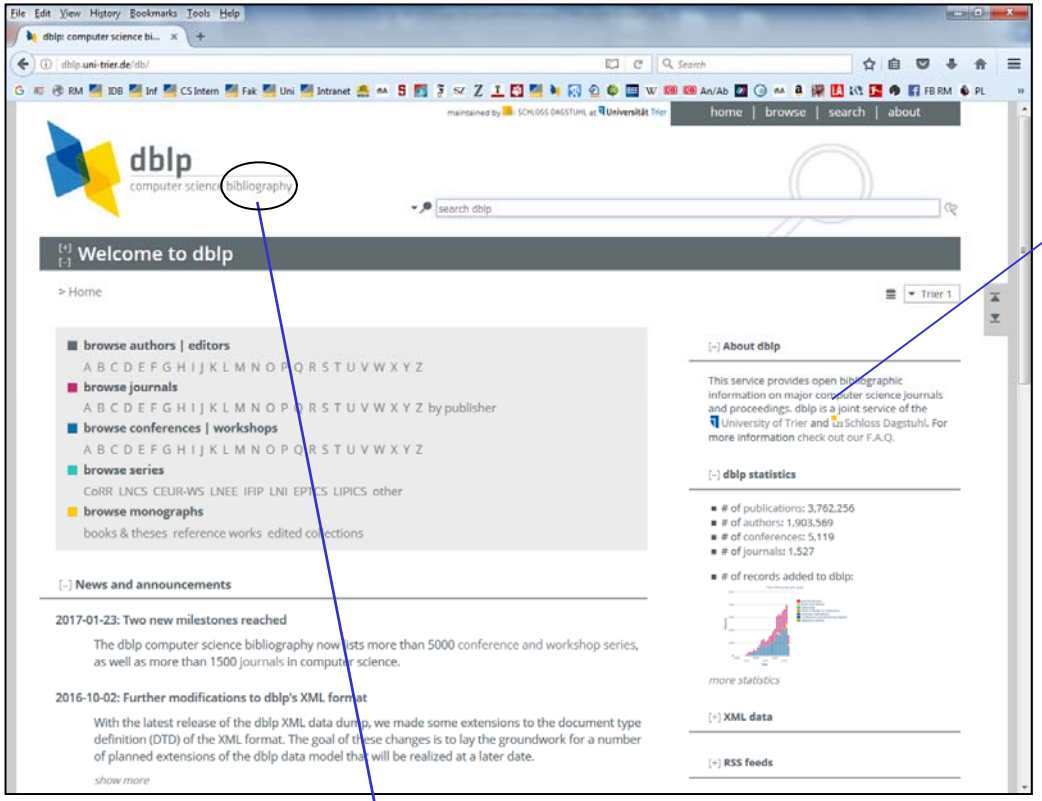
- What „is“ DBPL?
  What „is“ Google Scholar?

- How to classify the „Related resources“ which DBLP references?

- Is it more appropriate to call them „search engines“?



Classifying Digital Systems: DBLP



An enumerative bibliography is a systematic list of books and other works such as journal articles. . . .
A library catalog, while not referred to as a "bibliography," is bibliographic in nature.

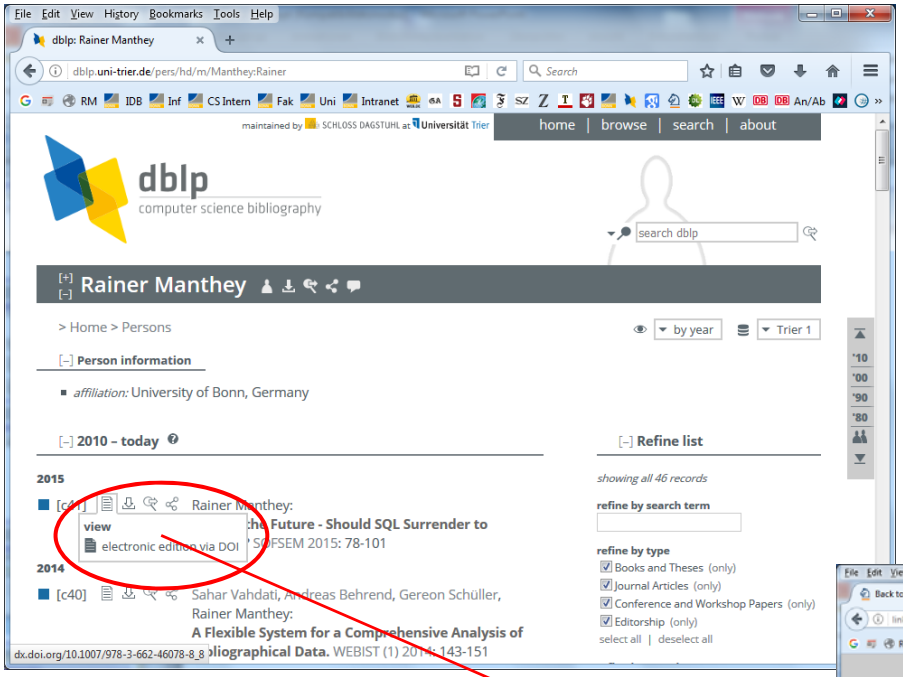
(Wikipedia, Engl., 14.5.2017)

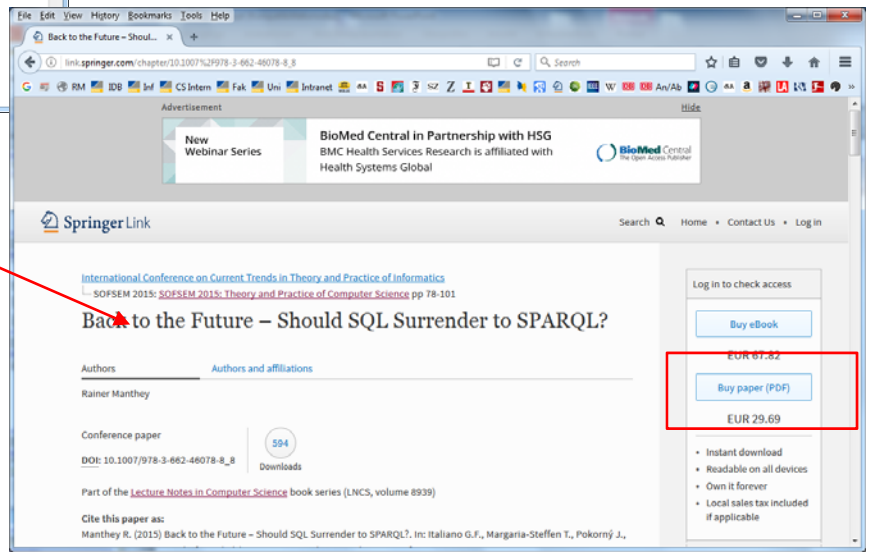
What they say about themselves:

This service provides open bibliographic information on major computer science journals and proceedings.

- DBLP clearly is an example of a digital catalogue.
- The bibliographic items it references are belonging to those categories mentioned in the statistics graph at the beginning of this lecture.
- DBLP references items from other categories (related to bibliographic entries), too (e.g., authors/editors, conferences).

Classifying Digital Systems: DBLP (2)



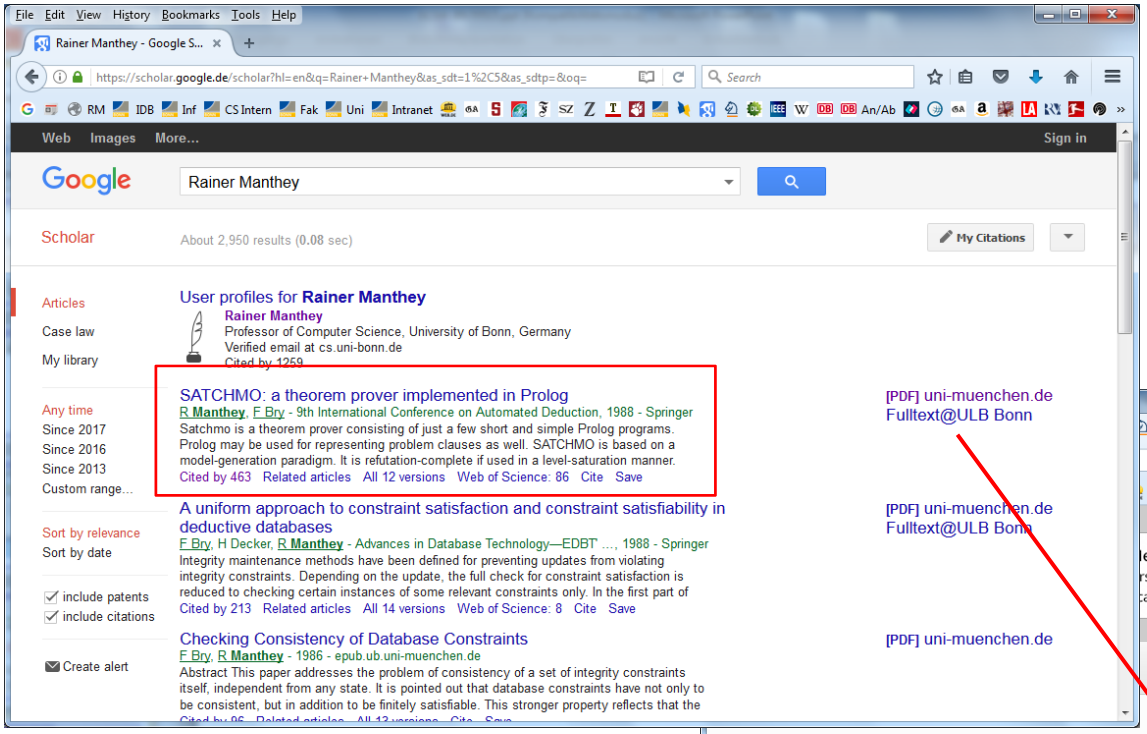


DBLP is a catalogue, not a library – it is connected with other catalogues („belonging to“ libraries).

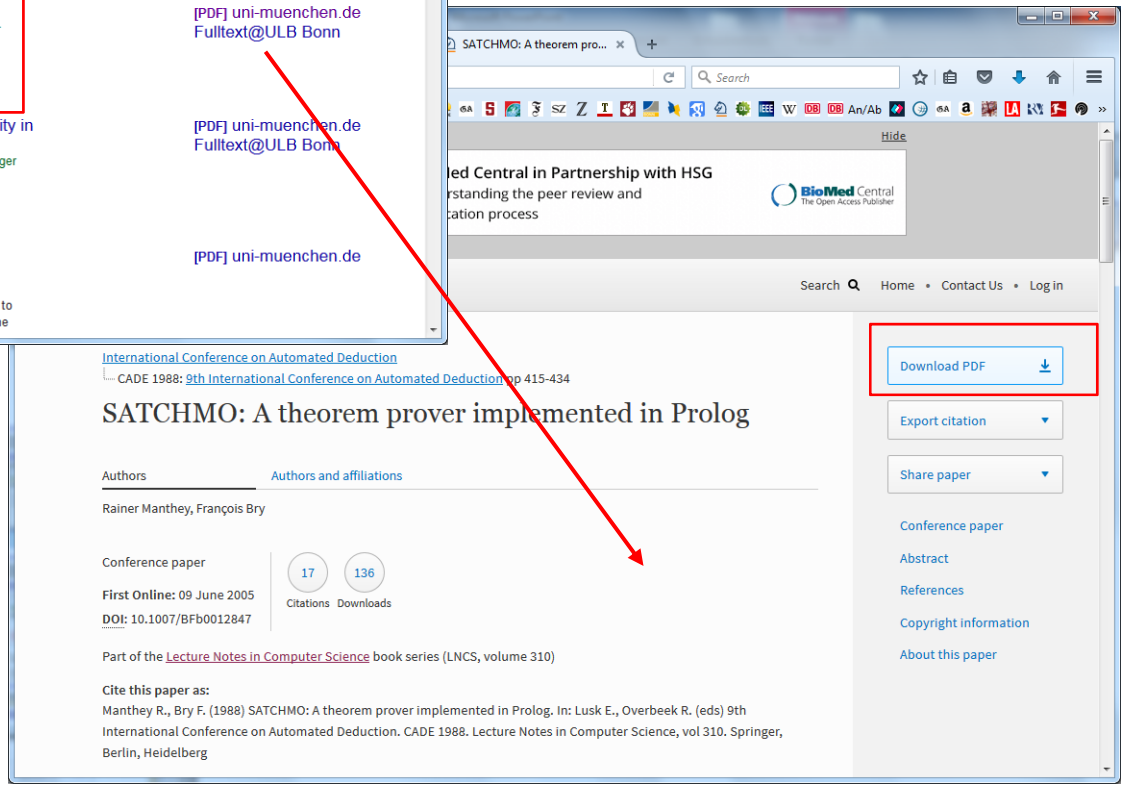
Even though DBLP is not just providing data about bibliographic items (such as articles), it does not offer access to these items themselves!

Instead it provides references (links) to catalogue pages of, e.g., publishers (here: Springer), which in turn reference their own digital library that gives access to the article itself (by payment).

Classifying Digital Systems: Google Scholar

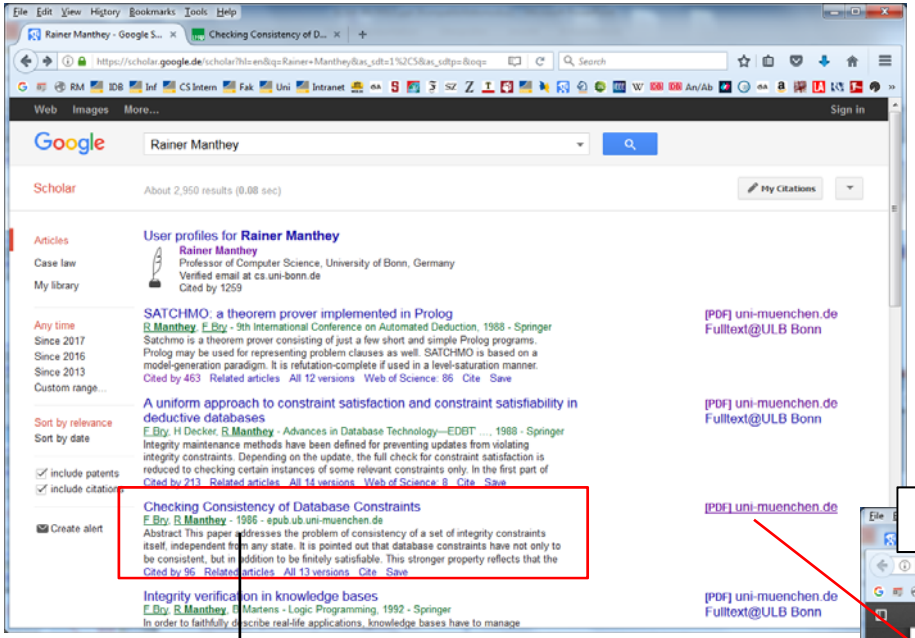


Google Scholar is a digital catalogue, too – not a library!



The main purpose of this system is to provide you with „bibliographical data“. Links (sometimes) given at the right-hand side just connect you with catalogues of libraries . . ., and occasionally with items outside libraries!

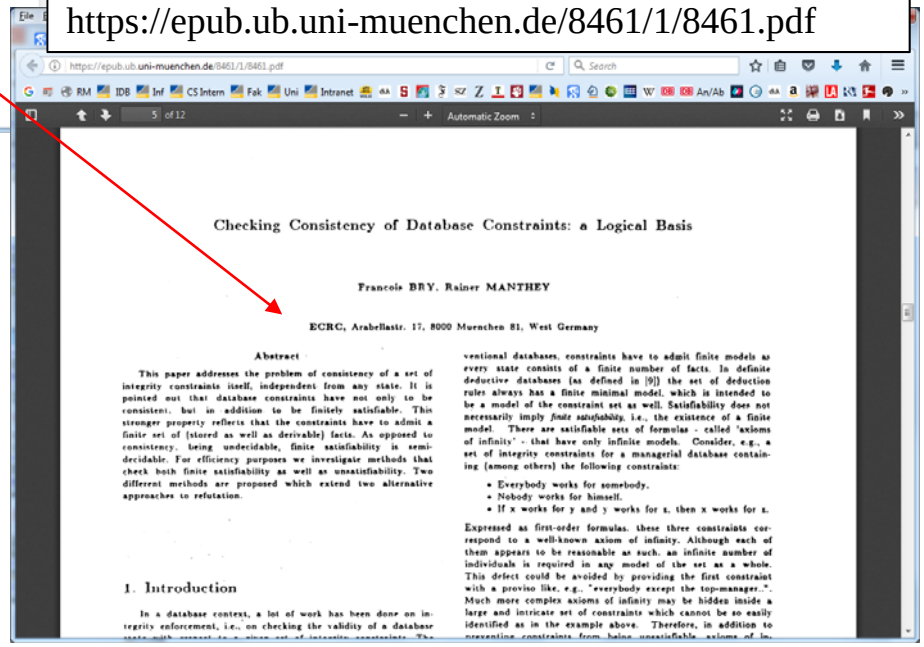
Classifying Digital Systems: Google Scholar (2)



?

For the 3rd entry in this Google Scholar list direct access to the respective paper seems to exist, however, suggesting that Google Scholar might indeed be a library (rather than „just“ a catalogue).

https://epub.ub.uni-muenchen.de/8461/1/8461.pdf



Checking Consistency of Database Constraints: a Logical Basis

Francois BRY, Rainer MANTHEY

ECRC, Arabellastr. 17, 8000 Muenchen 81, West Germany

Abstract

This paper addresses the problem of consistency of a set of integrity constraints itself, independent from any state. It is pointed out that database constraints have not only to be consistent, but in addition to be finitely satisfiable. This stronger property reflects that the constraints have to admit a finite set of (stored as well as derivable) facts. As opposed to consistency, being undecidable, finite satisfiability is semi-decidable. For efficiency purposes we investigate methods that check both finite satisfiability as well as unsatisfiability. Two different methods are proposed which extend two alternative approaches to refutation.

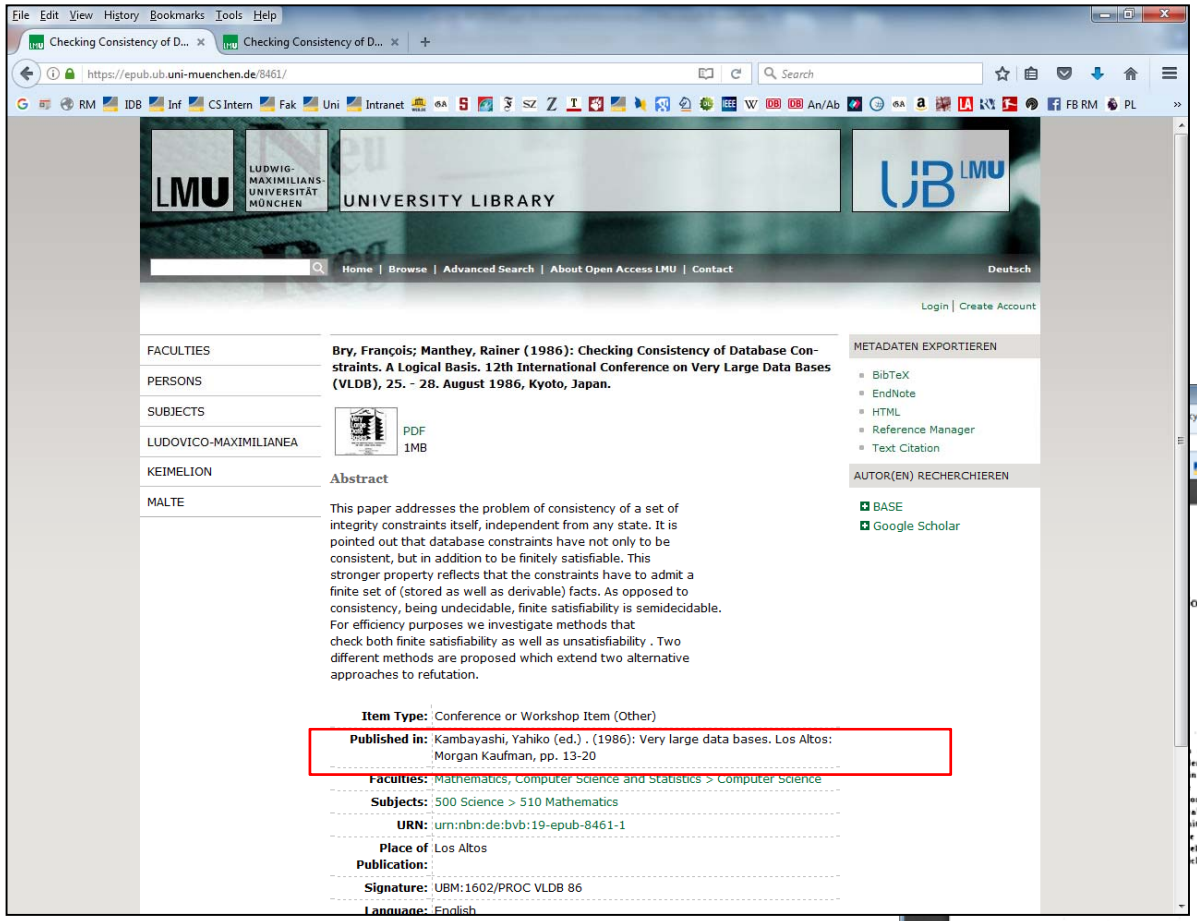
1. Introduction

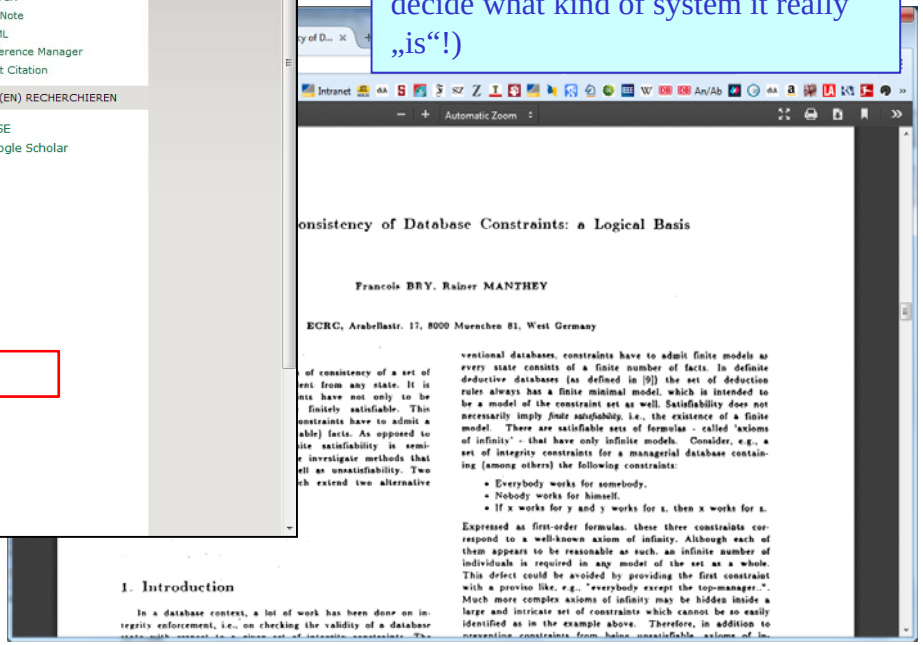
In a database context, a lot of work has been done on integrity enforcement, i.e., on checking the validity of a database

However, if you follow the link in the list itself (rather than the PDF-link in the „side list“) you will discover . . .

Classifying Digital Systems: Google Scholar (3)

. . . that a university library is providing digital access to an article published by a publisher not providing a digital library entry itself!





Google Scholar still is „just a“ digital **catalogue**!

(But it becomes ever more difficult to decide what kind of system it really „is“!)

A Problematic, as „Uncontrolled“ (Non-Standardized) Topic

- The most basic concepts in the context of „scientific communication“ in general, and „scholarly publication“ in particular have not (yet) been settled, but are under quite rapid development (especially due to the „digitalization movement“).

- There are no standards around, and the scientific community doesn‘t (yet) agree on widely accepted terms and „rules“, even though it sometimes seems that agreement would exist.

- The range of documents, organisations and individuals involved in this movement has been growing with almost „explosive“ speed due to web-based services „shaking“ the scene.

- Therefore, it is most important that you . . .

  - . . . don‘t be misled by premature assumptions about the meaning of terms and about accepting impressions that are just not settled yet, but look different, if viewed from a different point of view.
  - . . . don‘t despair about an apparently „rule-less“ context and community.
  - . . . accept that we attempt to generate some partial clarity in this unclear „world“.