

Why build Dewey numbers?

Presentation based on:
Why build Dewey numbers?
The remediation of the Dewey Decimal Classification system
 Nordlit (2012) nr. 30, 189-206
<http://munin.uit.no/handle/10037/4595>

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Number building

- Seems to be inseparable connected with the DDC
 - A fundamental property of analytic-synthetic classification systems
 - I haven't found one single paper that question number building
- I like DDC number building!
 - It's logical and admirable well constructed
 - The feeling of crosswords or Sudoku
 - However, my students are less enthusiastic...
 - Number building is not very user-friendly!?



Number building

- The FRBR/RDA data model also have tables
 - For Work, Expression, Manifestation, Item, Person, Concept, Place, ...
 - In a relational database library catalog, data is collected from all these tables and **build** into bibliographic records **by the computer**
 - What if users had to build bibliographic records...?
- So is number building really necessary or favorable?



A result of compression

- The present DDC is compressed
 - Subdivisions that applies to more than one class are represented only once, and referred to from other relevant classes
 - Similar for notes
- The result
 - 36,000 classes in 4000 pages / 4 volumes
- Number building is decompression
- Without number building
 - ≈ 1,000,000,000 classes = 100,000 volumes = large library



Lossless / lossy compression

- Not all subdivisions fits well everywhere and compromises has to be made
- The subdivisions of 610 Medicine & health is reused in 636.7 Dogs (Veterinary medicine)
 - 612 Human physiology
 - 613.835 Cannabis
 - 617.102733 Injuries in football

For dogs?

Better

• 004 Computer science

004.3 Processing modes

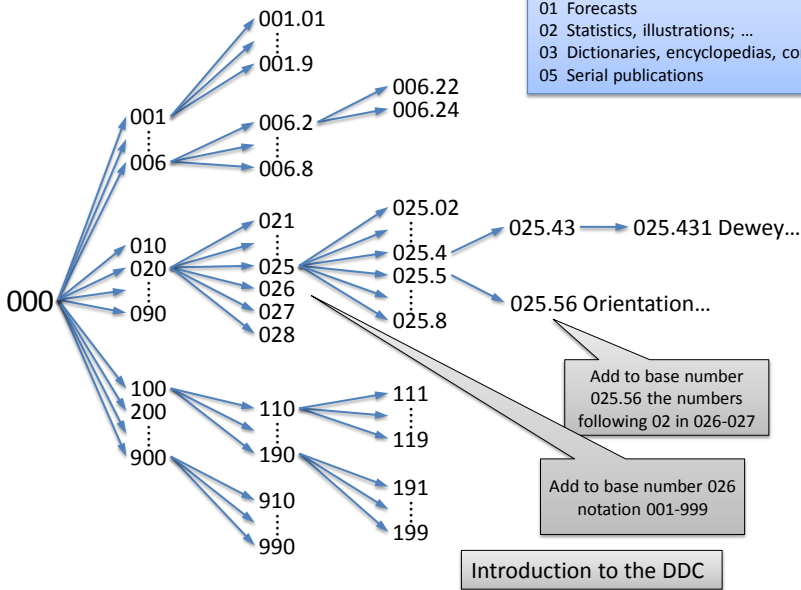
- 004.33 Real-time processing
- 004.35 Multiprocessing
- 004.36 Distributed processing

004.618 Computers distinguished by processing modes

- 004.6183 Real-time processing--communications
- 004.6185 Multiprocessing--communications
- 004.6186 Distributed processing--communications

The traditional DDC-structure

Schedules + Tables



Local add tables
 Add to base number T1--09 notation T2--3-T2--9 from Table 2; then add further as follows:
 01 Forecasts
 02 Statistics, illustrations; ...
 03 Dictionaries, encyclopedias, concordances
 05 Serial publications

T1--01
T1--09

T2--001
T2--01
T2--1
T2--9

T3--01
T3--9

T4

T5

T6

Add to base number 025.56 the numbers following 02 in 026-027

Add to base number 026 notation 001-999

Introduction to the DDC

WebDewey

- The remediation from paper to computer has not resulted in any fundamental changes
- There are of course improvements
 - Better linking, browsing, searching
 - NB-tool, Subject headings
 - More pre-build numbers
- But Dewey is still highly compressed
 - Number building
 - Cited notes
 - Number spans?



7

Wish list for WebDewey 3.0

- No number building for users
- No references to notes
- Improved search
 - Only 0.005% of the classes are searchable
- Fewer number spans
 - Has anyone tried to browse for 283 Anglican churches?
- Don't mix summaries and DDC-classes
 - Where is the notes for 020?
 - It is easy to get confused

8

A DDC-structure without NB

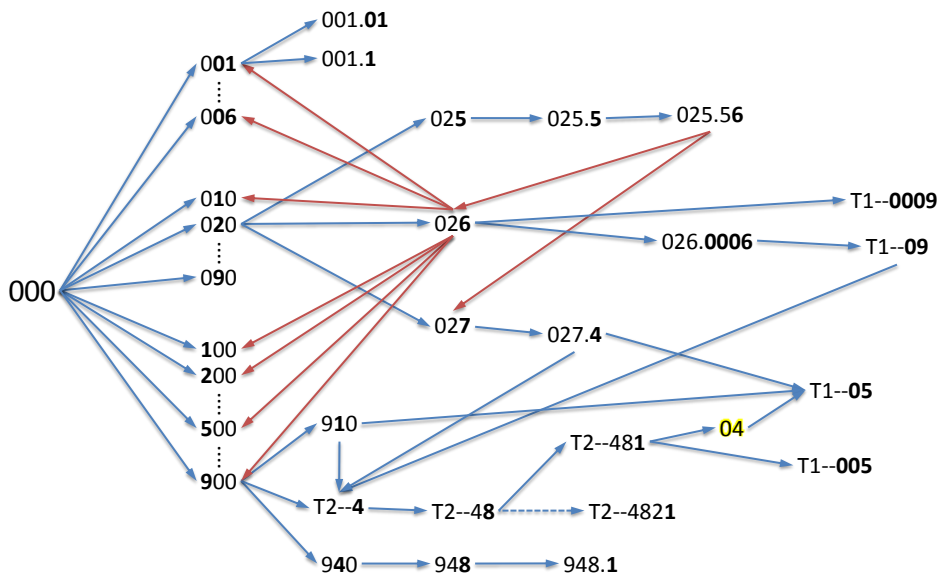
- The current WebDewey has mainly links to *schedule subclasses* at the next level
- If we include links to (next level) T1 and all NB continuations, number building can be eliminated
 - E.g., 636.7 Dogs must be linked to:
 - T1--001 - T1--009 (9 classes)
 - 636.01, 636.07 & 636.08 (number building)
 - 636.71 - 636.73 & 636.75, 636.76 (subclasses)
- Only possible links must be made, and DDC-rules must still be followed
- This may require a new structure

E.g.
only one
T1

9

Directed graph

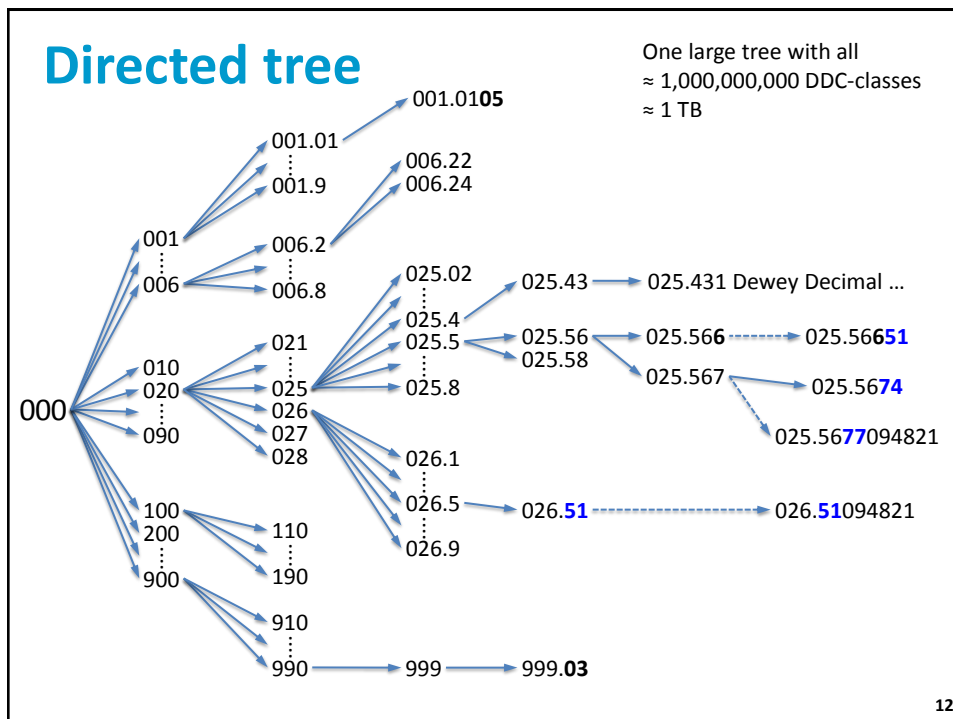
One directed graph with
≈ 36,000 nodes (DDC-classes)



10

- We link all the current schedule and table classes that is directly related into a *Digraph* with $\approx 36,000$ nodes (classes)
 - E.g. 025.431 is linked to T1--01 T1--09 (9 nodes)
- Each node have from 0 up to 36 outlinks
- The user can browse different paths through the digraph in order to find the best classification
- Class numbers are the collection of *significant* digits along the path (starting at 000)
- Corresponding for captions
- Search for all 1,000,000,000 classes should be possible

11



12

- We build all possible DDC-classes once and for all and link every class to all subclasses at the next level
- The result: a directed tree with $\approx 1,000,000,000$ classes
- Captions may be tailor-made
- The user can browse all the way from 000 to the most appropriate Dewey class
- Easy search for all classes, including...
 - Research in bone cancer in dogs
 - Injuries in football

13

000 and #subclasses



Decimal classification

- Traditionally DDC is perceived to have 10 top classes that each have up to 10 next-level subclasses
- At the same time we agree that 600 is superordinated 610 - 690
- But what is superordinated 601? → **600**
- And what are the next-level subclasses of 000?
 - It must be all of 100-900, 010-090 & 001-006 (23 classes)
 - Rule-of-zeros: we prefer the number with most non-zeros from the left (because it is more specific)
 - It follows that 000 is the top class
- A DDC class may have up to 36 subclasses when 3 consecutive zeros used for standard subdivision

14

WebDewey 3.0



- Lets find the DDC-number for *Research in bone cancer in dogs* in the new “WebDewey 3.0” 😊
- Notes and number spans are not implemented in this example

15

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*Research in
bone cancer
in dogs*



000 Computer science, information, general works

001 Knowledge	100 Philosophy & psychology
002 The book	200 Religion
003 Systems	300 Social sciences
004 Computer science	400 Language
005 *Computer programming, programs, data	500 Science
006 *Special computer methods	600 Technology
	700 Arts & recreation
010 Bibliographies	800 Literature
020 Library & information sciences	900 History & geography
030 Encyclopedias & books of facts	
050 Magazines, journals & serials	
060 Associations, organizations & museums	
070 News media, journalism & publishing	
080 Quotations	
090 Manuscripts & rare books	

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*Research in
bone cancer
in dogs*

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600 Technology

- 601 Philosophy and theory
 - 602 Miscellany
 - 603 Dictionaries, encyclopedias, concordances
 - 604 [Technical drawing, hazardous materials technology; groups of people](#)
 - 605 Serial publications
 - 606 Organizations
 - 607 Education, research, related topics
 - 608 [Patents](#)
 - 609 History, geographic treatment, biography
-
- 610 Medicine & health
 - 620 Engineering
 - 630 Agriculture**
 - 640 Home & family management
 - 650 Management & public relations
 - 660 Chemical engineering
 - 670 Manufacturing
 - 680 Manufacture for specific uses
 - 690 Construction of buildings

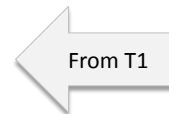
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630 Agriculture

- 630.1 Philosophy and theory
 - 630.2 [Miscellany and scientific principles](#)
 - 630.3 Dictionaries, encyclopedias, concordances
 - 630.4 Special topics
 - 630.5 Serial publications
 - 630.6 Organizations
 - 630.7 Education, research, related topics
 - 630.8 Groups of people
 - 630.9 History, geographic treatment, biography
-
- 631 Specific techniques; apparatus, equipment, materials
 - 632 Plant injuries, diseases, pests
 - 633 Field and plantation crops
 - 634 Orchards, fruits, forestry
 - 635 Garden crops (Horticulture)
 - 636 Animal husbandry**
 - 637 Processing dairy and related products
 - 638 Insect culture
 - 639 Hunting, fishing, conservation, related technologies



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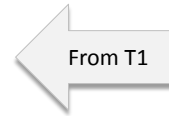
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636 Animal husbandry

- 636.001 Philosophy and theory
- 636.002 Miscellany
- :
- 636.008 Groups of people
- 636.009 History, geographic treatment, biography

- 636.01 Ranches and farms
- 636.07 Young of animals
- 636.08 Specific topics in animal husbandry

- 636.1 Horses
- 636.2 Cattle and related animals
- 636.3 Sheep and goats
- 636.4 Swine
- 636.5 Chickens and other kinds of domestic birds
- 636.6 Birds other than poultry
- 636.7 Dogs**
- 636.8 Cats
- 636.9 Other mammals



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636.7 Dogs

- 636.7001 Philosophy and theory
- 636.7002 Miscellany
- 636.7003 Dictionaries, encyclopedias, concordances
- 636.7004 Special topics
- 636.7005 Serial publications
- 636.7006 Organizations and management
- 636.7007 Education, research, related topics
- 636.7008 Groups of people
- 636.7009 Historical, geographic, persons treatment

- 636.701 Ranches and farms
- 636.707 Puppies (Young of animals)
- 636.708 Specific topics in dog husbandry**

- 636.71 Breeds of dogs
- 636.72 Non sporting dogs
- 636.73 Working and herding dogs
- 636.75 Sporting dogs, hounds, terriers
- 636.76 Toy dogs



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636.708 Specific topics in dog husbandry

- 636.7081 Selection, showing, ownership marks
- 636.7082 Breeding
- 636.7083 Care, maintenance, training
- 636.7084 Feeding
- 636.7085 Feeds and applied nutrition
- 636.7086 Field-crop feeds
- 636.7088 Animals for specific purposes
- 636.7089 [Veterinary medicine](#)**

← From 636.08

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636.7089 Veterinary medicine of dogs

- 636.708901 Philosophy and theory
- 636.708902 Miscellany
- 636.708903 Dictionaries, encyclopedias, concordances
- 636.708904 Special topics
- 636.708905 Serial publications
- 636.708906 Organizations and management
- 636.708907 Education, research, related topics
- 636.708908 Groups of people
- 636.708909 Historical, geographic, persons treatment
- 636.70891 Human (or actually dog) anatomy, cytology, histology
- 636.70892 Human (dog) physiology
- 636.70893 Personal (dog) health and safety
- 636.70894 Forensic medicine; incidence of injuries, wounds, ...
- 636.70895 Pharmacology and therapeutics
- 636.70896 [Diseases](#)**
- 636.70897 Surgery, regional medicine, dentistry, ophthalmology, otology, audiology
- 636.70898 Gynecology, obstetrics, pediatrics, geriatrics

← From 610

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636.70896 Diseases of dogs

- 636.70896001 Philosophy and theory
 - 636.70896002 Miscellany
 - :
 - 636.70896008 Groups of people
 - 636.70896009 Historical, geographic, persons treatment
-
- 636.7089602 Special topics of diseases
 - 636.7089604 Special medical conditions
 - 636.7089607 Pathology
 - 636.7089608 Psychosomatic medicine
 - 636.7089609 Case histories
-
- 636.708961 *Diseases of cardiovascular system
 - 636.708962 Diseases of respiratory system
 - 636.708963 *Diseases of digestive system
 - 636.708964 *Diseases of endocrine, hematopoietic, lymphatic, ... ; diseases of male breast
 - 636.708965 *Diseases of integument
 - 636.708966 *Diseases of urogenital system
 - 636.708967 *Diseases of musculoskeletal system
 - 636.708968 Diseases of nervous system and mental disorders
 - 636.708969 Other diseases**

From 616

From 616

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636.708966994 Dog cancers

636.708966994001	Philosophy and theory
636.708966994002	Miscellany
:	:
636.708966994009	History, geographic treatment, biography
636.70896699401	Medical microbiology
636.70896699402	Special topics
636.70896699403	Rehabilitation
636.70896699404	Special classes of diseases
636.70896699405	Preventive measures and surgery
636.70896699406	Therapy
636.70896699407	Pathology
636.70896699408	Psychosomatic medicine
636.70896699409	Case histories
636.7089669941	†Cancers of cardiovascular organs and blood
636.7089669942	Respiratory tract diseases
636.7089669943	Digestive system diseases
636.7089669944	Endocrine diseases
636.7089669946	Genital diseases
636.7089669947	Musculoskeletal diseases
636.7089669948	Nervous system diseases

From local table
under 616.1-616.9

From 611

Thank you for your attention

Any questions?