“The Importance of Being Ernest”

Why gathering and cleaning all the relevant data matters for patent analysis

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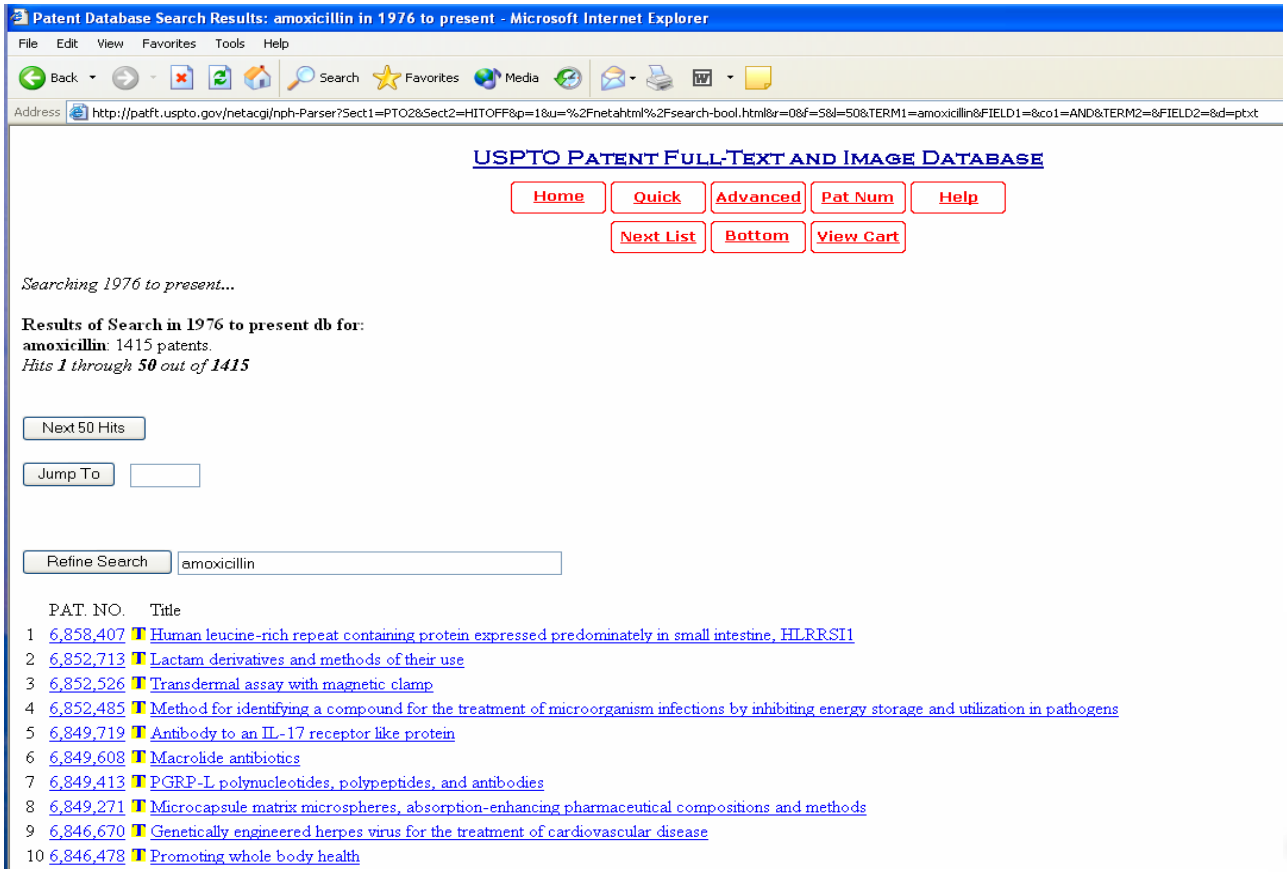
Topics to be discussed

- Email
- First attempt
  - USPTO Web site
- Fundamentals
  - GIGO
  - Good analysis starts with a good search
  - Linear law of patent analysis
- 2nd try
  - Online research
  - Data cleanup
- Conclusions

You receive the following email at 2pm on Friday from the VP of R&D for your company

- We have developed a new formulation for sustained release of Amoxicillin. We are interested in learning of the top 15 companies that have US patents covering Amoxicillin.

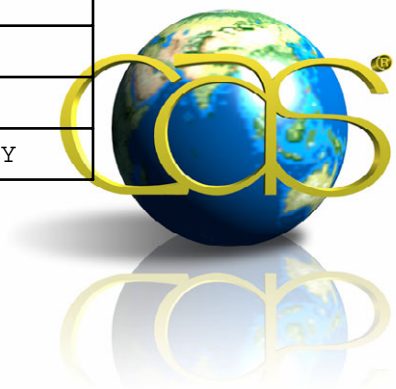
So, you rush off to the USPTO Website



Search and analysis

- You open the simple search page and search all fields for the term amoxicillin
- Over 1,400 records are retrieved (quite a large number you think)
- You extract out the Patent Assignee information and find the following…

# Records	Percentage	Patent Assignee
44	6.85	HUMAN GENOME SCIENCES, INC.
21	3.27	THE PROCTER & GAMBLE COMPANY
14	2.18	ADVANCIS PHARMACEUTICAL CORP.
14	2.18	TAKEDA CHEMICAL INDUSTRIES, LTD.
14	2.18	THE BIO BALANCE CORPORATION
12	1.87	ASTRAZENECA AB
11	1.71	CORIXA CORPORATION
10	1.56	ADOLOR CORPORATION
9	1.40	ARCHER-DANIELS-MIDLAND COMPANY
8	1.25	BASF AKTIENGESELLSCHAFT
7	1.09	THE UNIVERSITY OF BRITISH COLUMBIA
6	0.93	RESEARCH CORPORATION TECHNOLOGIES, INC.
6	0.93	VANDERBILT UNIVERSITY
5	0.78	ABBOTT LABORATORIES
5	0.78	BYK GULDEN LOMBERG CHEMISCHE FABRIK GMBH
5	0.78	NEW HORIZONS DIAGNOSTICS CORPORATION
5	0.78	NEW YORK UNIVERSITY
5	0.78	NYCOMED IMAGING AS
5	0.78	RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY



So, problem solved…right?

- Not so fast…
  - What about pending US patent applications?
  - What about PCT applications designating the US?
  - Further down the list, several of the companies are listed a second, third or fourth time because of misspellings
  - Some companies have merged since the patents were first issued
  - Are we really happy with this search?
    - Are all the documents on target?

Fundamentals – GIGO

- GIGO – Garbage In Garbage Out
  - If you throw in the kitchen sink you will always be worried about how accurate your analysis results are
  - Good analysis is like any other scientific experiment – follow the scientific method
    - Hypothesis
    - Experiment
    - Conclusion

Fundamentals – Good analysis starts with good search

- The search is your hypothesis stage
  - You learn about the area
  - You begin to understand what is reasonable and what is not
  - You formulate your strategy for how you will conduct your experiments

Fundamentals – Linear law of patent analysis

- The experimental stage
  - Understand the need behind the need
  - The need drives the question
  - The question drives the data
  - The data drives the tool
- It is critical to follow these steps in this order

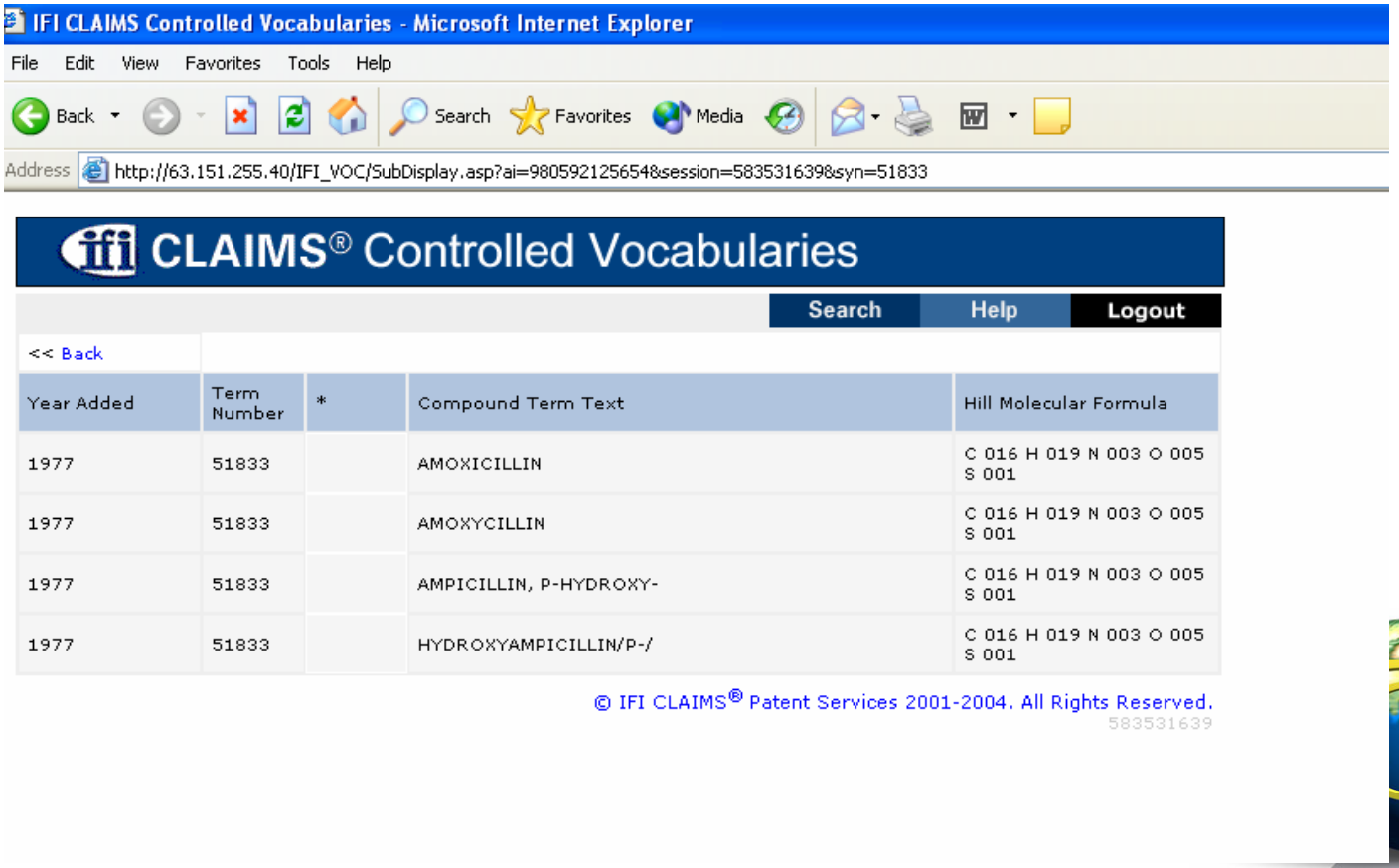
2nd try – search

- Use multiple searching techniques
- Use indexed databases for focused retrieval and accuracy
- Restrict full-text sources to presence in claims only
- Use multiple data sources for comprehensiveness

Multiple searching techniques

- Structure searches
  - 123 substances found in CAS Registry file (20 more than if the Amoxicillin RN was run as CRN)
  - Additional records found in Marpat
  - 5 substances found in Derwent Chemical Resource
- Chemical name synonyms
  - Over 300 synonyms for Amoxicillin
- Controlled vocabulary
  - Use of IFI Uniterms
  - Derwent Manual codes (subscribers only)
  - US/pcs

Controlled Vocabulary



Indexed databases for accuracy

- In order for a document to be indexed by a database produce it traditionally needs to play a significant role in the document
  - Avoid laundry lists while gist of document is focusing on something different or a different substance all together
  - Additional indexing allows for focused retrieval on the role or use of the substance

Restrict full-text sources to claims only

- Claims are the portion of the document which is legally binding
- If it is not in the claims but is in the specification than it may be a minor element of the document
- Portions of the specification may be misleading
  - The Background of the Invention section details what the invention is not about

Use multiple data sources for comprehensiveness

- Each component added to the comprehensiveness of the search
  - Name searching found additional records from structure search
  - Derwent and IFI Uniterm searches discovered unique records which were not in the CAplus database
    - This is not the fault of the individual indexing staffs but simply a difference in editorial policy

But be careful…

- It is important when using multiple sources and multiple patent offices to reduce to one document per invention
  - Duplicate removal was employed
  - In the full-text files the US applications were removed if there was a subsequent granted patent
  - PCT applications were removed if there was a corresponding US application or granted patent

Use multiple data sources for comprehensiveness

L84 1005 DUP REM L32 L38 L48 L53 L69 L83 (6 DUPLICATES REMOVED)

ANSWERS '1-700' FROM FILE HCAPLUS

ANSWERS '701-704' FROM FILE MARPAT

ANSWERS '705-871' FROM FILE WPINDEX

ANSWERS '872-943' FROM FILE IFIUDB

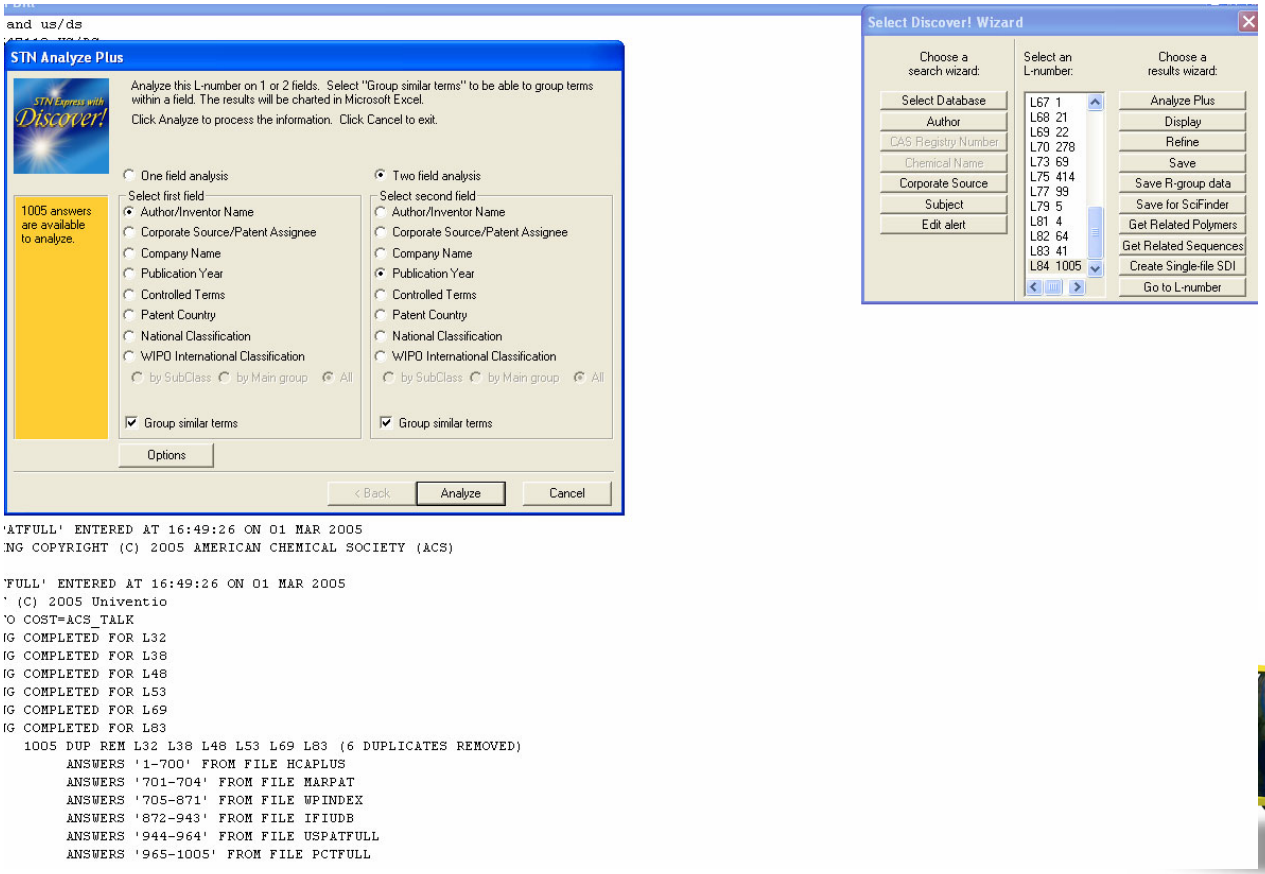
ANSWERS '944-964' FROM FILE USPATFULL

ANSWERS '965-1005' FROM FILE PCTFULL

2nd try – analysis

- Merge names with misspellings
- Where possible factor in mergers
- Download references to confirm results

Single Column Analysis



Data cleanup

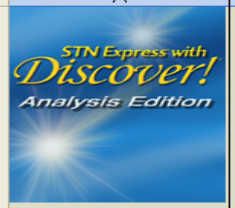
Final results

Microsoft Excel - Book1

File Edit View Insert Format Tools Data Window Livelink Help Adobe PDF

Display Records | 100% Magnification | Sort Row or Column | Delete Row | Combine

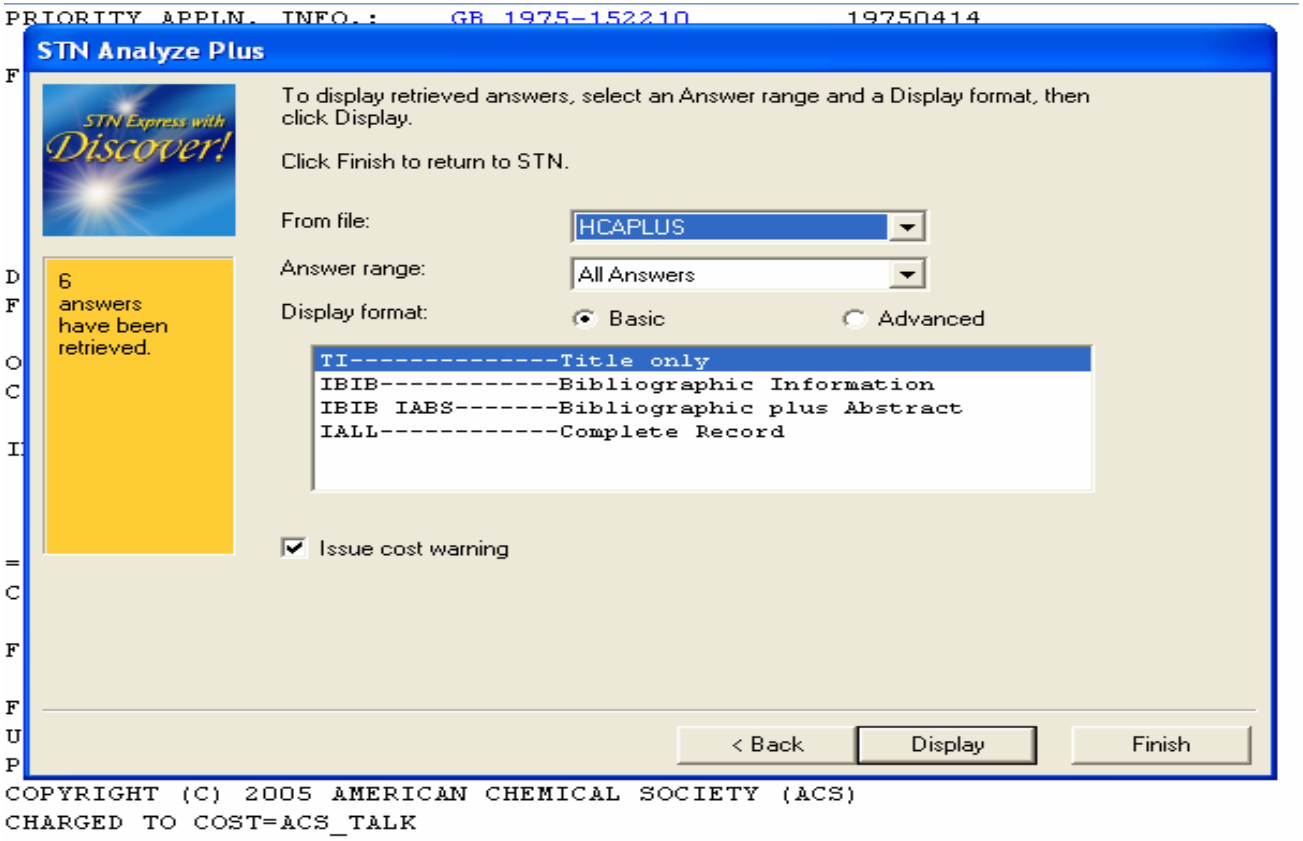
A3 | Pfizer

	A	B
1		
2	GlaxoSmithKline	139
3	Pfizer	66
4	USA	59
5	Bristol-Myers Squibb	22
6	Gist-Brocades N. V., Neth.	22
7	Human Genome Sciences	17
8	Merck	15
9	Bayer	12
10	F. Hoffmann-La Roche	12
11	Ruben, Steven, M.	12
12	Dsm Ip Assets B.V., Neth.	10
13	Novartis	10
14	Biochemie G.M.B.H., Austria	9
15	Procter and Gamble	9
16	Depomed	8

Compare the approaches

1st Attempt	2nd Attempt
HUMAN GENOME SCIENCES, INC.	GSK
THE PROCTER & GAMBLE COMPANY	PFIZER
ADVANCIS PHARMACEUTICAL CORP.	US GOVERNMENT
TAKEDA CHEMICAL INDUSTRIES, LTD.	BMS
THE BIO BALANCE CORPORATION	GIST-BROCADES
ASTRAZENECA AB	HUMAN GENOME SCIENCES, INC.
CORIXA CORPORATION	MERCK
ADOLOR CORPORATION	BAYER
ARCHER-DANIELS-MIDLAND COMPANY	HOFFMANN LA ROCHE
BASF AKTIENGESELLSCHAFT	RUBEN, STEVEN
THE UNIVERSITY OF BRITISH COLUMBIA	DSM LP ASSETS
RESEARCH CORPORATION TECHNOLOGIES, INC.	NOVARTIS
VANDERBILT UNIVERSITY	BIOCHEMIE GMBH
ABBOTT LABORATORIES	THE PROCTER & GAMBLE COMPANY
BYK GULDEN LOMBERG CHEMISCHE FABRIK GMBH	DEPOMED

Display only the records you need



Conclusions

- Good analysis requires good search
- Good analysis requires:
  - Accurate data
  - Cleaned data
  - Focus on objective
- Take the road less taken and be Ernest in your efforts for the best result