The Italian Digital Archives Initiatives: situation and perspectives

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Rome, 23rd January 2006

Terminology

- A **repository** is "a digital store of principally research outputs and journal articles, but also potentially a wealth of other information, created by teachers, academics and researchers and made openly available to all who wish to access them"
- An **archive** is often used as a synonymous of repository (but not always)

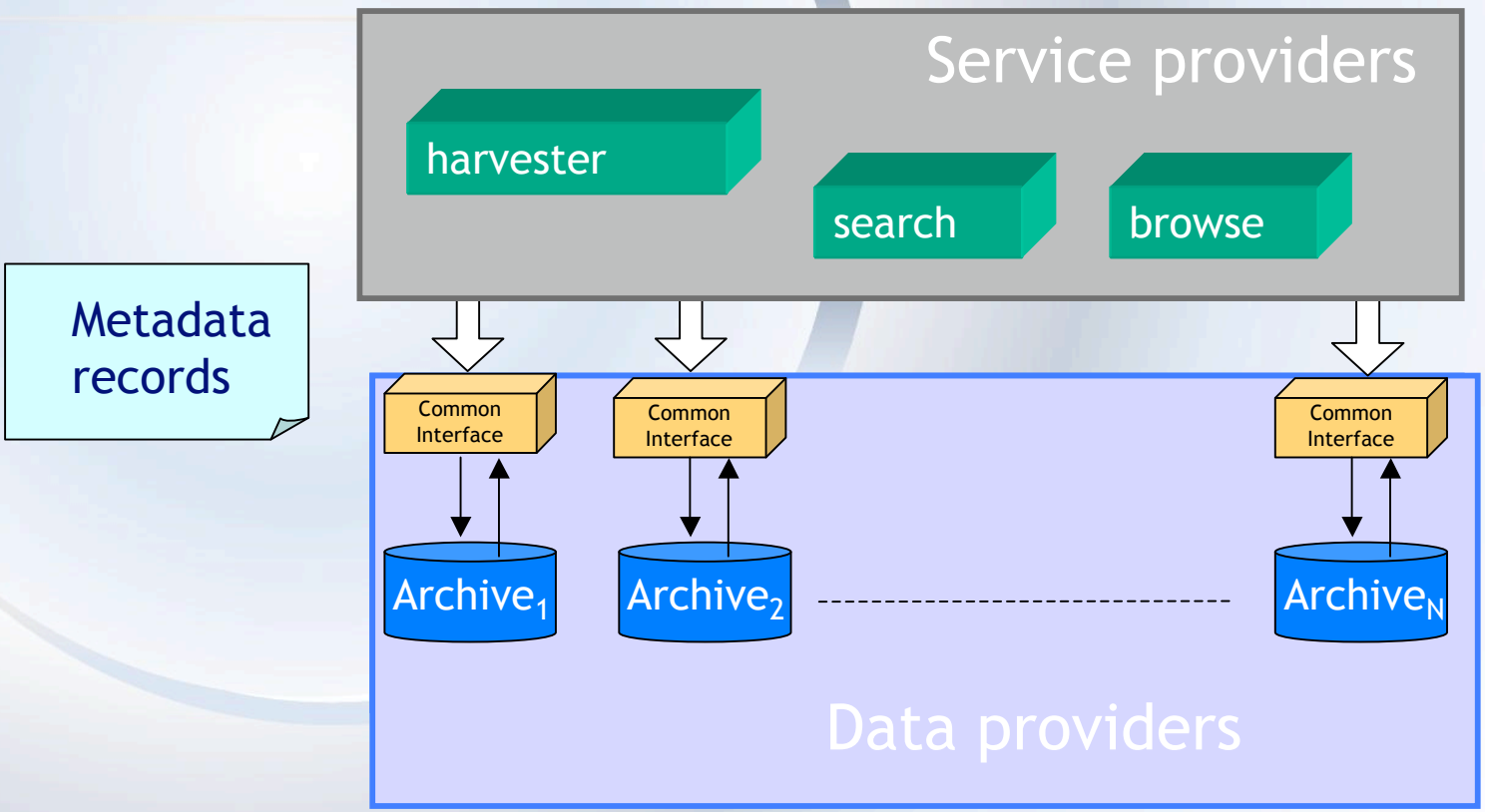
Repositories: a brief history

- **Open Archives Initiative**, Santa Fe (New Mexico), July 1999

  Set up by representatives of scientific communities that were used to publish their pre-prints on electronic archives:

  - **ArXiv** (Los Alamos National Laboratory Physics Archive)
  - **CogPrints** (University of Southampton – papers on Psychology)
  - **NCSTRL** (University of Cornell – papers on Computer Science from 120 Organizations)
  - **NDLTD** (electronic theses and dissertations)
  - **RePEc** (papers on Economics)

Technical solution: OAI-PMH



Organization: Open Access

Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities, October 2003

- Goal

  To promote the Internet as a functional instrument for a global scientific knowledge base and for human reflection

- Agreed Recommendations

  Institutions should implement a policy to:

  1. require their researchers to deposit a copy of all their published articles in an open access repository
  2. encourage their researchers to publish their research articles in open access journals where a suitable journal exists (and provide the support to enable that to happen)."

- Up to now 140 organizations have signed it

Repositories are a new phenomenon

- **DARE Project (The Netherlands)**

Digital Academic Repositories

- Period: 1 Jan. 2003 - 31 Dec. 2006
- Funded by: SURF Fundation
- Budget: M€ 5.9
- Partners: All universities , KNAW, NWO and KB
- December 2005: 17 institutions, 60.000 objects

Repositories are a new phenomenon(2)

- Denmark: DEFF (Denmark's Electronic Research Library)
  Organisational and technological partnership between research libraries co-financed by the Ministry of Science, Technology and Innovation, the Ministry of Culture and the Ministry of Education.

- UK: SHERPA (Securing a Hybrid Environment for Research Preservation and Access)
- Funded by JISC (Joint Information Systems Council) and CURL

- Germany: DFG (German Research Foundation) , DINI (German Initative for Networked Information), et. al

Repositories are a new phenomenon(3)

Knowledge Exchange Collaboration Agreement ,June 2005

Funding Agencies

Denmark DEFF - Denmark's Electronic Research Library

Germany DFG - German Research Foundation

UK JISC - Joint Information Systems Council

Netherlands SURF - SURF Foundation

Goal

"With the international dimension increasingly important both in education and research and in the use of ICT, these organisations will work together under the umbrella of the Knowledge Exchange to share information, increase the profile of national research and development activities, and where appropriate work towards a common infrastructure based on international standards"

OAI-PMH compliant Information Space

- 577 OAI-PHM compliant institutional repositories,
  6.5 M objects
  (updated 18 January 2006)

OAI-PMH compliant Information Space

Table 1: Academic institutional Repositories; state of the art in 13 countries - June 2005

Countries	Number of IRs	Number of universities	Percentage of universities with an IR	Average number of documents per IR
Australia	37	39	95	n.r.
Belgium	8	15	53	450
Canada	31	n.r.	-	500
Denmark	6	12	50	n.r.
Finland	1	21	5	n.r.
France	23	85	27	1000
Germany	103	80	100	300
Italy	17	77	22	300
Norway	7	6	100	n.r.
Sweden	25	39	64	400
The Netherlands	16	13	100	3,000 / 12,500
United Kingdom	31	144	22	240
United S tates of America	n.r.	261	-	n.r.

New trends (1): digital libraries & e-learning tools

- DL can be built by exploiting "shared" repositories
- E-learning objects can be created by exploiting information from repositories

New trends (2): from libraries to libratories

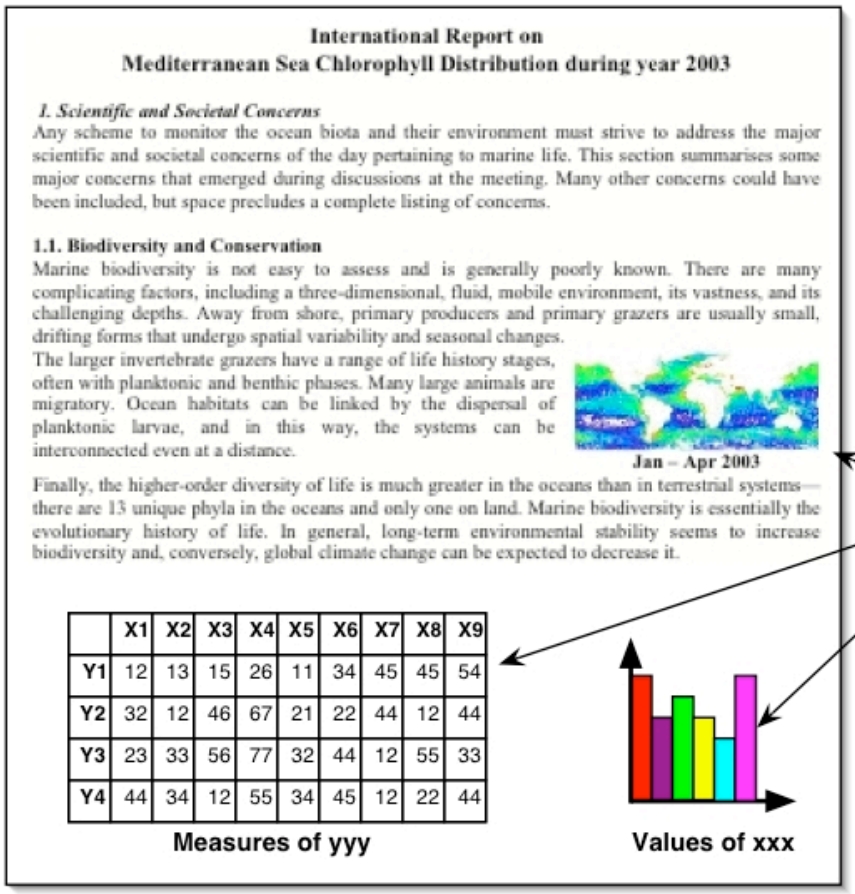
- Libratories = "an imaginary word to express the combined functions of libraries, repositories and collaboratories" *(Leo Waaijers, SURF)*

- Broader meaning:
  - original scientific research results, raw data and metadata, source materials, digital representations of pictorial and graphical materials and scholarly multimedia material

New information objects

On-demand documents

- a fixed text
- a pollution map
- a table summarizing data from millions of observed satellite measures
- a graph reporting an analytical trend of certain information extracted from a great amount of observed data



International Report on
Mediterranean Sea Chlorophyll Distribution during year 2003

1. Scientific and Societal Concerns

Any scheme to monitor the ocean biota and their environment must strive to address the major scientific and societal concerns of the day pertaining to marine life. This section summarises some major concerns that emerged during discussions at the meeting. Many other concerns could have been included, but space precludes a complete listing of concerns.

1.1. Biodiversity and Conservation

Marine biodiversity is not easy to assess and is generally poorly known. There are many complicating factors, including a three-dimensional, fluid, mobile environment, its vastness, and its challenging depths. Away from shore, primary producers and primary grazers are usually small, drifting forms that undergo spatial variability and seasonal changes.

The larger invertebrate grazers have a range of life history stages, often with planktonic and benthic phases. Many large animals are migratory. Ocean habitats can be linked by the dispersal of planktonic larvae, and in this way, the systems can be interconnected even at a distance.

Jan – Apr 2003

Finally, the higher-order diversity of life is much greater in the oceans than in terrestrial systems—there are 13 unique phyla in the oceans and only one on land. Marine biodiversity is essentially the evolutionary history of life. In general, long-term environmental stability seems to increase biodiversity and, conversely, global climate change can be expected to decrease it.

	X1	X2	X3	X4	X5	X6	X7	X8	X9
Y1	12	13	15	26	11	34	45	45	54
Y2	32	12	46	67	21	22	44	12	44
Y3	23	33	56	77	32	44	12	55	33
Y4	44	34	12	55	34	45	12	22	44

Measures of yyy

Values of xxx

Automatically updated with the most recent data

New trends(3): not always uncontrolled

- Not necessarily “free of charge”
- Not necessarily public

New trends(4): not only for research

- Business intelligence, models constructions, governance, ….

  "Knowledge-based networked enterprise"

- National examples: INPS, Il Sole 24 Ore, InfoCamere, Regioni,….

An e-Infrastructure for Repositories

Open issues

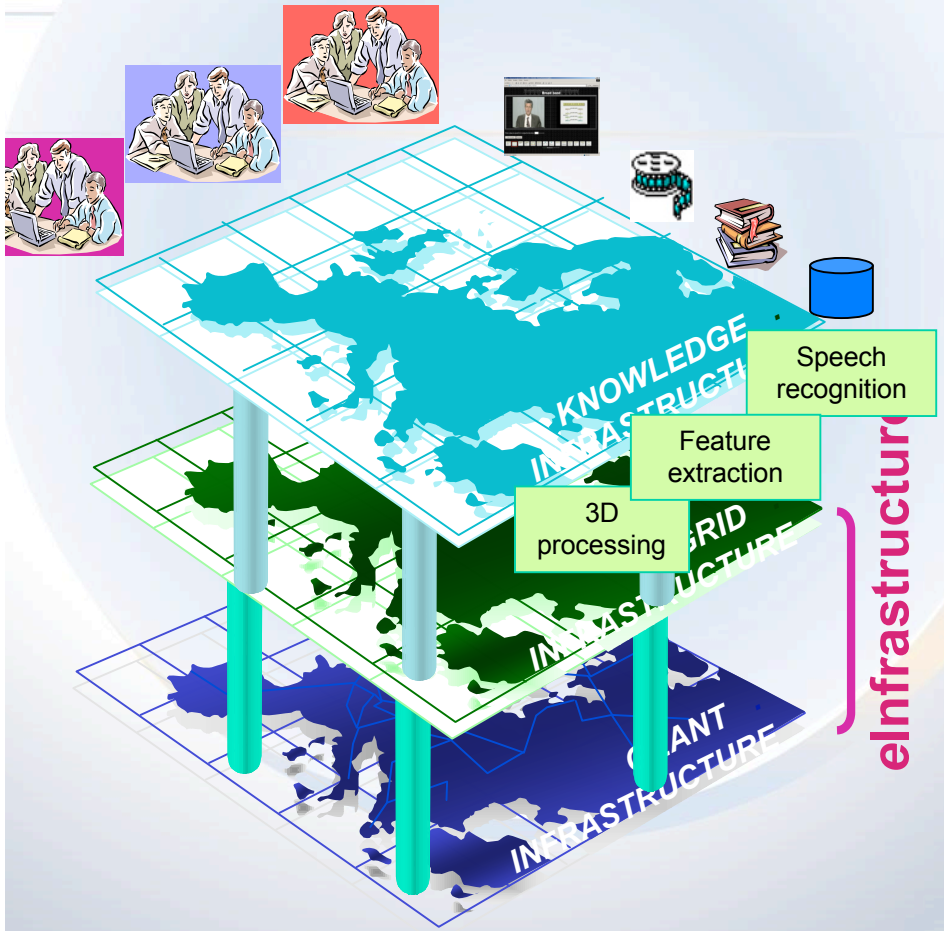
Interoperability, resources registration, authentication and authorization, management, curation and preservation of multimedia and multi-type resources, etc.

e-IRG meeting, *December 13/14 2005, London*

" A European vision for a Universal e-Infrastructure for Research"
Malcom Read

"The principles of global collaboration and shared resources achieved by the Grid and e-Science community should be expanded to underpin the resource needs through a Universal common infrastructure. This goal should be a major driver for Framework infrastructure funding. Such an infrastructure of readily available networks, computers and data resources will significantly increase the efficiency and effectiveness of research, benefit society and promote public understanding of science"

The technical aspect: DILIGENT



A DIgital Library Infrastructure on Grid Enabled Technology

The situation in Italy (1)

- "Gli atenei italiani per l'Open Access: verso l'accesso aperto alla letteratura di ricerca" Workshop , Messina, 5th November 2004

  32 Universities signed the Berlin Declaration:

  Bologna, Brescia, Calabria, Firenze, Foggia, Genova, Insubria, Lecce, Messina, Milano, Milano Bicocca, Milano Politecnico, Milano Vita-Salute San Raffaele, Modena, Molise, Napoli Federico II, Napoli L'Orientale, Napoli Partenope, Padova, Palermo, Parma, Piemonte Orientale, Roma LUMSA, Roma Tor Vergata, Roma III, Siena, Torino, Trieste, Trieste SISSA, Tuscia, Venezia IUAV, Istituto Italiano di Medicina Sociale di Roma.

The situation in Italy (2)

- Open Access Repositories
  - University Press– Univ. of Florence
  - ALMA DL- Univ. of Bologna
  - Polaris - Univ. of Trento
  - DAFNE - Univ. of Padua
  - PLEIADI: portal for Italian scholarly e-literature in open archives and institutional repositories - CASPUR, CILEA
  - and many others …..
- Fragmented situation

Organization

- **"Iniziativa per una rete nazionale delle Biblioteche e degli Archivi Istituzionali degli Atenei e degli Enti di Ricerca italiani"**

  Padua, 26 January 2006

  Sponsored by the DELOS NoE on Digital Libraries

- Invited participant organizations

  CINECA, CILEA, CASPUR, CNR, ENEA, INFN, MIUR,MIBAC, MIT, and many Universities

Thank you for your attention

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