

Sources of Scientific Literature for Multiagent Systems

Multiagent Systems LS
Sistemi Multiagente LS

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1 Scientific Literature

- Scientific Literature: Generality
- Scientific Literature: Details

2 Agent-Oriented Literature

- General Sources of Informatics Literature
- Agent-Oriented Journals, Series & Books
- Agent-Oriented Conferences & Workshops



Outline

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Scientific Literature: The Process

Scientific literature is the result of a complex process

- Involving thousands of skilled people world-wide
- Growing constantly in size and width in the last decades
- Where individual, social, organisational, economical, political issues are often as important as scientific ones
- Articulated essentially around four stages
 - production
 - publication
 - dissemination
 - access
- In general, only when all four stages are well-developed, a scientific result becomes shared and successful



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Scientific Literature: The Actors

Scientific literature is the result of the activity of many actors

- Many actors are involved in the process
 - researchers
 - universities & research centres
 - funding bodies
 - publishers
- They participate in the process with different aims and roles
- Abstracting away from *motivations* of actors in the research process could make understanding the process and its results difficult, and participating to it actively even more problematic



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Scientific Literature: The Producers

Scientific literature is essentially produced by researchers

- Researchers
 - working in the academia, industry, research institutions
 - working either individually or in team, in isolation or in research labs
 - are mainly involved in the production stage

Production of scientific results means nothing alone

- (Expert) researchers are typically involved in the other three stages, too
 - promoting, participating to, and coordinating scientific meetings
 - promoting, participating to, and coordinating scientific projects
 - promoting, participating to, and coordinating publication of books and journals
 - promoting dissemination of published results
 - possibly, making access to published results as wide as possible
- A huge number of non-scientific, non-technical issues to be faced & solved
 - like, say, fund raising



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Scientific Literature: The Promoters

Universities & research centres

- Some institutional actors have the promotion of scientific research among their main goals
 - universities
 - public & private research institutes
 - industrial research centres
- Promoting research is not their only aim, however
 - universities have to produce and transmit knowledge
 - research institutes have to make their own results visible, and possibly to transfer them to industry
 - industrial research centres have to produce competitive advantage as well as long-term profits



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Scientific Literature: The Sponsors

Public & private funding bodies

- Investing in research
- Funding theoretical & applied research
 - either occasionally, or systematically
 - either as an exceptional measure, or as part of the mission of the funding body
- Typical examples
 - public: European Community, Italian Ministry of Research, Region Emilia Romagna, ...
 - private: mostly, big industrial groups like FIAT, British Telecom, Siemens, IBM, ...

Modes for funding

- Often in the form of *projects*, involving individuals & groups from either the same body or different bodies
- Sometimes in form of *grants*, typically individual



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Scientific Literature: The Artifacts

Scientific literature does not exist if not in a shareable form

- An idea is not a scientific result *per se*
- A scientific result is something that
 - is presented & structured in a way that can be *understood* by non-authors
 - has a form that can be *shared* and accessed by members of the scientific community
 - gives readers enough information upon its results, so that they could in principle be reproduced and possibly *confuted* by any (expert, knowledgeable) reader [Popper, 2002]

Articles & Books

- The primary sharable form for scientific results are *articles* (also called *papers*), collected and published in scientific journals
 - are the primary form of communication, especially in the natural sciences
 - are organized in collections in form of books
- When *stable*, results are often presented in extended form, in scientific *monographies*



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- Before it is published an article is *submitted* in some form to a *review process*
 - for publication in a scientific journal, a book collection, a conference, a symposia, a workshop
- Review is conducted by experts in the field, and concludes in a final evaluation
- In case the article is considered worth of publication, it might anyway be revised according to the reviewer's indications, and finally accepted for publication
- When published, the article represents a piece of scientific literature
- In case of conferences, workshops, symposia, public presentation of the article and discussion of the content is an essential part of the *dissemination* process



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Scientific Literature: The Publication Process

Scientific literature is subject to public control

- Before it is published an article is *submitted* in some form to a *review process*
 - for publication in a scientific journal, a book collection, a conference, a symposia, a workshop
- Review is conducted by experts in the field, and concludes in a final evaluation
- In case the article is considered worth of publication, it might anyway be revised according to the reviewer's indications, and finally accepted for publication
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Scientific Literature: The Publishers

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- Once ready, proceedings, journal issues, collections and monographies are ready as scientific products, but not yet as typographic ones
- Often, publishers intervene on the form (language, formatting, illustrations, ...) of the scientific material before it is published
 - with the consent of authors / editors

The role of publishers

- Publishers have a twofold goal
 - *promoting their own interest* (at least the new books market)
 - *ensuring the best dissemination through high quality publications*
- Publishers dictate the pace for publication of volumes / issues, the total number of pages
 - *they also may impose organization on the general public of a published volume / journal*
- Publishers handle organisational issues, and introduce / govern *social & economical* factors in the scientific process
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 - to disseminate scientific knowledge
 - to ensure the quality of the scientific products through high quality peer-review
- Publishers dictate the pace for publication of volumes / issues, the total number of pages
- Publishers are in charge of the *peer-review* process, the *peer-review* process is a *peer-review* process / journal
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Scientific Literature: The Dissemination Process

Dissemination of scientific literature is a multi-faceted process

- Publication is just a premise
- Presentation at scientific meetings adds momentum
 - interpersonal communication is an essential even though non-technical key-point
- Promotion of demos at scientific meetings is fine for systems
- Mailing to selected lists may be good
 - typically done by both publishers and authors, if not by institutions
- Physical distribution of printed copies to individuals and libraries is another essential instrument
- However, the main tool & index of dissemination is *citation*!



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Scientific Literature: Citations

The role of citations

- The main tool & index of dissemination is *citation*
 - paper *A* cites paper *B* in its bibliography
- When you read a paper, you may as well go through the bibliography, and possibly follow citations for further readings
- Citations are a measure of scientific impact
 - even though citation is not necessarily a sign of approval...
 - ... it is typically a good measure of the relevance of a scientific result
- Citations are typically used for *evaluation* of scientific production
- Web resources for citations
 - Impact Factor, ISI
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Scientific Literature: Access

Access to scientific literature is nowadays mostly Web-based

- Even though traditional means are still widespread—like
 - participation to scientific events, and
 - access to printed materials in libraries and personal collections
- *on-line access* is gaining more and more ground, and is already the most important means of access to scientific literature
- Internet & Web technologies have obviously a key role
 - since they allow an unprecedented flow of *dissemination* of and *access* to (either published or unpublished) technical results
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Scientific Literature: Our Efforts

aliCE Producing & publishing scientific literature is not enough

- In the long run, disseminating results and providing easy & organised access to them is at least as relevant
- The ongoing efforts in the **aliCE** portal at <http://alice.unibo.it/> are exactly aimed at that
- Other specialised portals are under development, concerning **aliCE** products, projects and publications as well
 - however, they are non-funded activities, based on volunteer's efforts
 - so, the process is slow and painful



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Outline

1 Scientific Literature

- Scientific Literature: Generality
- Scientific Literature: Details

2 Agent-Oriented Literature

- General Sources of Informatics Literature
- Agent-Oriented Journals, Series & Books
- Agent-Oriented Conferences & Workshops



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IOS Press <http://www.iospress.nl/>

World Scientific <http://www.worldscinet.com/>

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Sources of Scientific Literature for Multiagent Systems

Multiagent Systems LS
Sistemi Multiagente LS

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