Issues of open science and licensing from a practical perspective in academic research

Aurelio Ruiz

University policies

Define obligations, incentives, resources to achieve the desired goal.

Key issue for success: enactment by researchers and their specific communities (science as a self-regulated environment).

If Open science = Excellent science (as understood by the academic community)

Then solve practicalities

Else work also on their alignment with their perceived values

Open science = Excellent science

Science as a process & Science as a common good

Organised skeptiscism, universalism, communalism, disinterestedness

Tensions:

- Associated with the **publishing industry**:

    → closed access to research results, potential abuse of community work (such as review processes), transparency concerns

    → aimed to be solved with open access policies, repositories, open journals, etc with mixed success.

- **Inclusiveness** (who does research, who determines priorities, who benefits from advances in research, etc)

    → critical studies, diversity policies, etc also with mixed results.

Open science in the context of computational science

New objects as part of the scientific practice:

- Prominence of **data** required to reproduce, replicate and advance knowledge.

- **Software** as the codification of research methods.

- **Tools** to conduct or access research (development frameworks, platforms…).

   The Open Source community provided narratives and solutions (e.g. licenses) to Excellent Science narratives and pratices

Main tensions

- Previous ones (publishing industry, inclusiveness).

- Reward of **individual achievement** in academic progression, specially in contexts of growing scientific collaboration, diversity of roles needed to conduct research.

   → DORA, COARA (e.g. to recognise different types of impacts).

   Power dynamics mostly internal to the scientific domain, self-governance.

- From regulation: Digital Services Act – delegated act on data access

Open science = AI-driven excellent science?

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INTELIGENCIA ARTIFICIAL >

Dos años de ChatGPT: del deslumbramiento total a la caída en el 'valle de la decepción'

La herramienta que disparó la carrera por la inteligencia artificial generativa ha evolucionado, pero menos de lo que se predicó. Los científicos no esperan avances rompedores inmediatos en la disciplina

Two years of ChatGPT: from total dazzle to the 'valley of disappointment

Open science = AI-driven excellent science?

Science as a process
Science as a common good

- Complexity (data, algorithms, training, models, hardware…) to validate, study, modify or reproduce results - process.

- Dependence on development frameworks, infrastructures **external** to the academic community.

AI **as part of** scientific processes (even as "generator" or evaluator of scientific evidence).

Ongoing academic discussions – what is excellent science? Openness a required condition? Which elements of "openness" are shared between science and open source communities?

Open science = AI-driven excellent science?

Science as a process

Science as a common good

Potential tensions common to the open source community:

Relevance of **external power dynamics** that impact the self-regulation of the academic domain. Influence of big corporations on the academic field:

- Reproducibility / replicability at scale – validation process. Scientific method.

- Direct influence (funds, data, talent, capture of open results).

- Indirect influence (narrative generation, societal demands, research directions, aspirations of newcomers to science).

- Inclusiveness: Who can participate in science, what science is prioritised.

- Disinterestedness: impede access to knowledge. Even citizen science is captured (crowds "privately" captured).

- Knowledge production as a collective process: difficulties in the processes of licensing (e.g. attribution) – open source community provided solutions before.