Investigating recontextualisation processes in scientific digital practices: the SciDis database

Investigando procesos de recontextualización en prácticas científicas digitales: la base de datos SciDis

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Scientific communication is exploiting innovative dynamics of research dissemination and knowledge transfer through digital platforms which allow for the wide circulation of disciplinary information for diversified audiences. Against this backdrop, recontextualisation is a key phenomenon, enhanced by medium-dependent affordances, the combination of semiotic modes and users' discursive choices. In this paper, we present and justify the SciDis Database, collected to analyse this complex phenomenon in various digital scientific dissemination practices, including X/Twitter and Instagram posts, research digests, feature articles, *Ask an Expert* sites, *The Conversation* platform, explainers, and lay summaries. We conceptualise each of them, considering two parameters to frame them: whether they represent web-hosted or social media practices, and whether they entail author-generated or writer-mediated knowledge. Exploitations and applications of the SciDis Database are emphasised in connection with digital discourse analysis and digital pragmatics, multimodally-oriented approaches, knowledge communication frameworks, and ethnographically-informed studies.

Keywords: *digital discursive practices; scientific dissemination; recontextualisation processes; websites; social media.*

La comunicación científica está maximizando nuevas dinámicas de difusión y transferencia de conocimiento mediante plataformas digitales que permiten la amplia circulación de información especializada para audiencias diversificadas. Para ello, la recontextualización es un fenómeno clave, potenciada por las prestaciones del medio digital, la combinación de modos semióticos y la singularidad discursiva de los usuarios. En este artículo, presentamos y justificamos la base de datos SciDis, que representa este complejo fenómeno en diversas prácticas digitales de divulgación científica, tales como *posts* en X/Twitter e Instagram, *research digests*, *feature articles*, sitios web de *Ask an Expert*, la plataforma *The Conversation*, *explainers* y *lay summaries*. Conceptualizamos cada práctica estableciendo dos parámetros: si aparecen alojadas en webs o redes sociales, y si recontextualizan

conocimiento generado o mediado por el autor del texto. Se enfatizan las aplicaciones de la base de datos SciDis para el análisis del discurso digital y la pragmática digital, la multimodalidad, el marco de comunicación del conocimiento y los estudios etnográficos.

Palabras clave: *prácticas discursivas digitales; divulgación científica; procesos de recontextualización; sitios web; redes sociales.*

1. DISSEMINATION AND RECONTEXTUALISATION IN SCIENTIFIC DIGITAL PRACTICES

The innovative ways of making science nowadays are paralleled in innovative ways of communicating science. Scholarly systems and professional communities growingly endorse values such as collaboration, interdisciplinarity, innovation and excellence. This is part of a loop in which scholars and professionals are imbued in demand from institutional policies and social needs, which they try to meet through their work. Science, as a very complex endeavour, has undergone significant changes in the way it is conceptualised. We have clearly moved beyond traditional laboratory work and experiments to a much broader notion that also encompasses processes of knowledge creation, knowledge transfer, participatory culture and movements towards openness. This is translated at present into scientists' efforts to attain a global, fast and effective communication of science, as well.

Accordingly, dissemination processes must be situated within the conceptual model currently predominating in science communication: the Participation Model. This model stresses the urge for knowledge to be understood as a social asset that is democratically enacted through the participation of expert and non-expert social agents (Bucchi & Trench, 2016). In such a context, scientific production is inevitably conceived as initially triggered by social needs and eventually restored to society (Engberg, 2023). Making an impact on society can only be achieved if knowledge is communicated, for which several cumulative phases can be discerned, following Bartling and Friesike (2014). These include, first, the professionalisation of knowledge creation, which is ensured by the value of research; later, attempts to transfer knowledge, which was linked to the emergence of the journal system; and, finally, these days, an unprecedented scientific revolution motivated by the possibilities enabled by the Internet.

Recent research on discourse analysis and communication studies has placed the focus precisely on the role of the digital medium in how science is communicated in different disciplinary fields and through different practices. Some of these approaches have looked into the emergence and reconfiguration of digital genres (Luzón & Pérez-Llantada, 2019), the construction of credibility in knowledge transmission (Bondi & Cacchiani, 2021), the principles of knowledge recontextualisation from philosophical and interdisciplinary perspectives (Kramer & Gottschling, 2021), the recent proliferation of parascientific practices (Mur-Dueñas & Lorés, 2022), and the construction of identity and visibility in research dissemination (Plo-Alstrué & Corona, 2023), to name just a few.

Drawing from many of these assets, it is our main intention to address how scientific dissemination is manifested in scholarly and professional digital practices. In particular, we investigate which specific processes of recontextualisation take place in scientific dissemination to make knowledge accessible for diversified audiences. In understanding these processes, we also aim to uncover how the notions of identity, visibility, self-branding and credibility are foregrounded discursively. As Lorés and Diani contend (2021), digitalised discourse aiming at knowledge dissemination and resulting from novel professional and scholarly practices is shaping and reshaping aspects of language, genre and identity.

"Recontextualisation" serves as a core concept which enables us to look into the relationship between scientific dissemination practices and the particular enactment of experts' identity and visibility in the environment where these practices are hosted. Recontextualisation implies the dynamic transference and transformation of a text (Linell, 1998; 2001) in the communication between addressers and addressees, operationalised at various levels (cognitive, pragmatic, discursive, linguistic). Put differently, recontextualisation is regarded as "a process by which some part of discourse is extracted from one communicative context and conveyed into another" (Bondi et al., 2015: 2). Recontextualisation often emerges from experts' interest in catering for knowledge building processes, such as expansion, extension and enhancement (Engberg & Maier, 2015), which may help bridge the potential knowledge asymmetries between them and their audiences (e.g., Bondi et al., 2015; Gotti, 2014; Maier & Engberg 2021).

Consequently, recontextualising scientific information stands as a process whereby users' knowledge gaps are attested and addressed to mediate comprehension of specialised discourse (Mur-Dueñas, 2024). Research analyses have traditionally linked recontextualisation processes to the rising of practices of "popularisation" (e.g., Calsamiglia & van Dijk, 2004; Gotti, 2014, Valeiras-Jurado & Ruiz-Madrid, 2023), but now a plethora of more complex scientific dissemination practices needs to be researched as a consequence of the sophistication of science production and scientific communication.

These novel and developing practices that foster scientific dissemination bring with them other interrelated discursive phenomena, such as "interdiscursivity" (Fairclough, 1995) and "hybridity" (Bhatia, 2004), which hint at the appropriation of conventions across different discourses. Linell (1998) already pointed at this particularity, signalling that recontextualisation involves a blending of voices in professional discourse. This means that scientific discourse can borrow discoursal characteristics from other disciplinary areas, such as corporate discourse, educational discourse, medical discourse, as well as from non-academic, informal discourses.

Moreover, the role of multimodality should be integrated in the discursive exploration of such recontextualisation processes. The "resemiotisation" (Iedema, 2003) of texts brings along a reshaping of such texts from one mode to another through semiotic meaning-making resources. Thus, from this multimodal perspective, another layer should be added to the study of recontextualisation, which is conceived as "moving *meaning material* from one context with its social organisation of participants and its modal ensembles to another, with its different social organisation and modal ensembles" (Bezemer & Kress, 2008: 184). This translates into the adjustment of specialised knowledge to different audiences, both expert and non-expert, by exploiting and combining diverse modes, such as the visual and the aural modes.

In the particular scenario of scientific dissemination carried out by experts, recontextualisation is defined as a multidimensional process by which scientific knowledge is extracted from its original expert source and reshaped discursively, so that it may fit in other (non-) expert textual environments. When this occurs online, the resultant shape is determined by the digital affordances available in the platform where the scientific dissemination practice takes place. The implication is that recontextualisation through digital discursive practices requires the transformation of specialised, expert knowledge beyond linguistic reformulation, with the aim of making it accessible, explanatory and accepted by multiple audiences.

The rest of the paper is organised as follows. In Section 2, we introduce the SciDis (Scientific Dissemination) Database, first, considering a number of variables for the compilation of scientific digital practices and, then, by defining the features of the digital practices included so far. In Section 3, we highlight the applications of the SciDis Database to various strands in Applied Linguistics and Communication Studies. In Section 4, we summarise the main ideas and provide some final remarks.

2. THE SciDis DATABASE

The SciDis Database is a dynamic collection of digital texts that involves updated communicative practices related to scientific dissemination and knowledge transfer. These digital practices respond to today's global urge of transforming science into a public good and transferring scientific knowledge to the wide public. Consequently, the SciDis Database comprises complex discursive phenomena instantiating current scientific dissemination, in general, and the recontextualisation of knowledge, in particular. Departing from their "primary output" (Puschmann, 2015), scientists, researchers and professionals growingly publish their investigations in other channels and media that require new registers, multimodal formats and targeted audiences. To meet these demands, the leverage of digital affordances is essential in scientists' recontextualisation practices to discursively facilitate disciplinary expert knowledge to other expert and non-expert diversified audiences.

Stemming from the rationale of the SciDis Database, in the next subsections we discuss the methodological decisions taken for its compilation and provide an overview of the digital discursive practices it features.

2.1. *Methodological decisions for the compilation of the SciDis Database*

Salient digital practices harnessed for knowledge communication and scientific dissemination are collected in what we have coined as the SciDis Database. Several criteria were followed in the process of creating the database to ensure methodological consistency and prospective analytical rigour.

A first decision to frame the scope of meaningful scientific practices was to focus on Sustainable Development Goals (SDGs) as a thematic criterion capturing the updated, medium-term interests and concerns of our society. A further step to narrow down our research involved the selection of particular SDGs around which scientific dissemination practices are flourishing. Under the overriding umbrella of Goal no. 17, which emphasises the transversal need to revitalise the global partnership for sustainable development and strengthen its implementation, we chose four specific SDGs. Taking the rationales given to these goals by the United Nations (https://sdgs.un.org/goals), our selected goals include Goal no. 3, which refers to good health and well-being and aims to "ensure healthy lives and promote well-being for all at all ages"; Goal no. 7, which is concerned with efficient and clean energy and intends to "ensure access to affordable, reliable, sustainable and modern energy for all"; Goal no. 12, which aspires to "ensure sustainable consumption and production patterns" by promoting responsible behaviours; and Goal no. 13, which is related to environmental action and seeks to "take urgent action to combat climate change and its impacts".

Our contention is that these scientific issues are of utmost relevance in today's professional activities, political agendas and social structures. They trigger an enormous interest on the part of the civil society, whose demands for knowledge consumption need to be met through broad dissemination. *Figure 1* visually represents the consideration of SDGs for our research:

To move from this theoretical layer, we concurred that these SDGs needed to be reflected in specific macro-disciplines and particular sub-topics with high social relevance, which is precisely what drives the interest to produce and disseminate specialised knowledge about them for the wide public. Thus, the SciDis Database comprises practices from three main disciplines: 1) health, 2) economy and 3) natural sciences. Two fine-grained sub-topics tightly linked to the SDGs presented above were pointed out for each of the three disciplines: 1a) physical activity and nutrition and 1b) mental health; 2a) sustainability and 2b) circular economy; and 3a) climate change and 3b) energy efficiency. Although categorical differences between these topics may be sometimes hard to find, this procedure helped us in identifying well-delimited digital discursive practices according to a classification of topics related to scientific dissemination.

*Figure 1: **SDGs structuring the SciDis Database (United Nations, n.d.)***

From these criteria, our next step was to focus on the notions of "dissemination" and "recontextualisation", which we have deeply discussed in Section 1. The possible knowledge asymmetries among expert and non-expert audiences steer the dissemination efforts and recontextualisation processes in multiple contexts maximised in the digital medium. Subsequently, our iterative exploration of scientific dissemination practices online disclosed some relevant trends. These practices primarily include feature articles, research digests, *Ask an Expert* practices, personal and institutional X/Twitter accounts, lay summaries, explainers, and institutional blogs. *Figure 2* is the result of compiling the SciDis Database and displays a map of the digital discursive practices related to scientific dissemination that we have found out as salient:
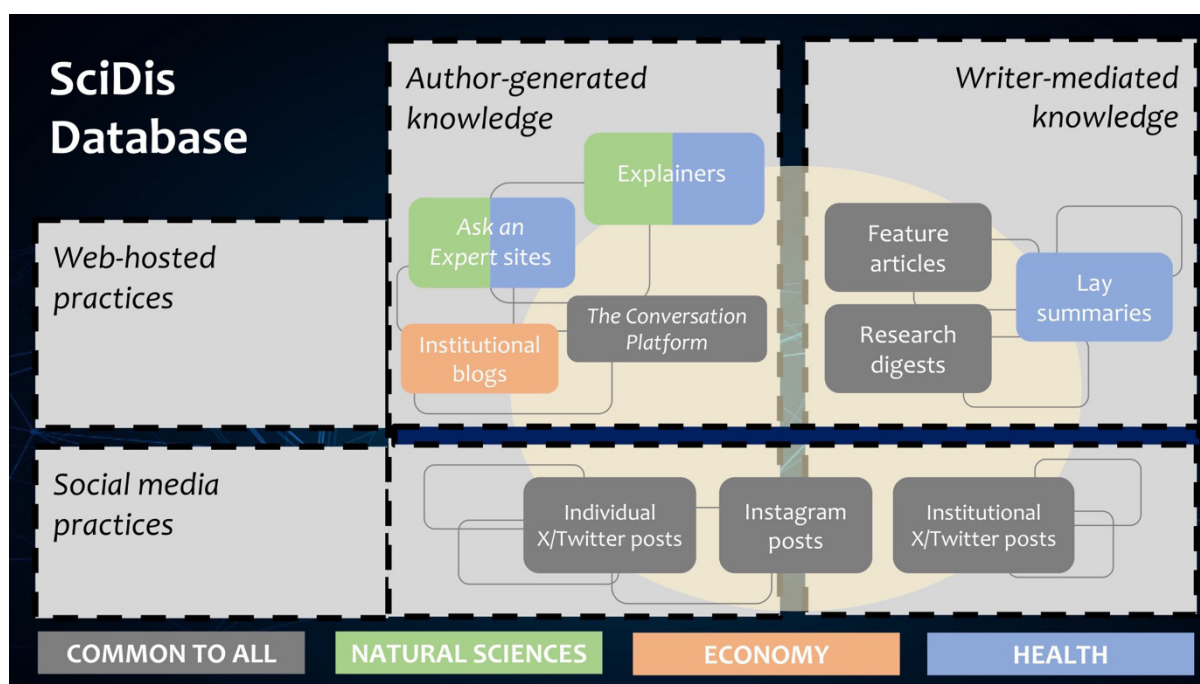

*Figure 2: **Digital discursive practices and disciplines of scientific knowledge
included in the SciDis Database***

The selection and classification of these digital scientific practices was structured around two variables which have been determined as relevant after an iterative shaping of the database based on collaborative exploration and observation of selected data. The first variable concerns the typology of the practices based on the platform where they are hosted. This enables us to establish a dichotomy between websites and social media, as well as to capture the complementary realities of both digital practices in knowledge transfer and scientific dissemination. Our starting hypothesis is that, whereas web-hosted practices may fulfil roles of informativity and visibility, social media accounts may help boost interactivity and networking.

As such, web-hosted practices in the SciDis Database are defined as dissemination practices aimed at the construction and circulation of scientific knowledge, and rhetorically and visually organised in a "website hierarchy" (Djonov, 2007), by which webpages are generated as layers of scientific information through which users can navigate. In turn, social media practices are defined as dissemination practices which take place in platforms with unique affordances whose driving force is the promotion of user interaction -in this case, social interaction around scientific knowledge. These include X/Twitter, Instagram, YouTube, TikTok and ResearchGate, among others, and their use has been coined as Social Media for Research Dissemination Purposes (Pascual & Mur-Dueñas, 2022; Mur-Dueñas & Pascual, 2023) and explored by these authors by focusing on X/Twitter and the landscape of international research project communication.

The second variable touches upon the agency of the texts, that is, who is involved in creating the content that shapes the digital discursive practices under scrutiny in our SciDis Database. Two scenarios are contemplated to make it more accurate. A first scenario lies in practices in which the individual user "holding" scientific knowledge produces and distributes the information and data. The source of knowledge and the user disseminating that knowledge coincide and, hence, these are referred to as author-generated practices. A second scenario is represented by practices in which the author of the text partially or completely differs from the source of knowledge and/or the individual user generating that knowledge. This implies cases in which other professionals in communicating scientific knowledge intervene in the creation and publication of content, as well as in which users, based on other authors and/or sources of knowledge, produce their own scientific content. These are considered writer-mediated practices.

Bearing these criteria in mind, we downloaded textual instantiations of the scientific dissemination practices selected for the SciDis Database. Through web scraping techniques and manual compilation, documents containing these texts were stored as one-page documents in PDF format. This decision guaranteed that we captured real-time documents preserving their particular layout at one point, which is helpful for our future analyses and to observe how the scientific dissemination practices compiled evolve. We also transformed the PDF files into Word documents for practical reasons. We proposed a coding system for the identification of digital scientific dissemination practices and, within each of these, for the different sources from which texts are compiled. The addition of metadata was helpful in the organisation of texts within the database, retrieving information about the disciplines and sub-topics featuring the texts, the access route to the original sources, the authorship of the texts, the dates of publication, and further comments on specificities of the digital practice in question.

In our research studies, we resort to a number of software tools that assist us in retrieving numerical, empirical and contextual data. For our qualitative analyses, we rely on NVivo 12 and 14, which is a CAQDAS with which we code our texts through nodes and carry out pragmatic, discursive and multimodal analyses. For our quantitative analyses, we employ corpus-assisted software tools such as SketchEngine, AntConc and Wordsmith Tools that allow us to look into the frequency, distribution and patterning of lexico-grammatical elements.

At this stage of our project, we have already compiled a core corpus that contains 30 texts per each of the digital discursive practices related to scientific dissemination contemplated in the SciDis Database. These are further subdivided into 10 texts per each of the three macro-disciplines, and 5 texts from a different source. This ensured that we counted on two different salient sources of scientific dissemination practices per each of the macro-disciplines. Specific information that is periodically updated can be found at the X website (to be included after revision).

In Subsection 2.2 we conceptualise in further detail the scientific dissemination practices included in the SciDis Database.

2.2. *An overview of digital scientific practices*

A wide variety of practices has been compiled in the SciDis Database to track trends and shifts in current online scientific dissemination, as shown in *Figure 2*. Conceptualisations and analyses of these practices may help understand how new knowledge is communicated and recontextualised to adapt to diversified audiences. Although our focus is on three particular macro-disciplines in which knowledge is recurrently disseminated and recontextualised, we acknowledge that the role of these practices may also be salient in other disciplinary fields. Thus, we broadly define the most representative digital practices within the SciDis Database, which include X/Twitter and Instagram posts, as representatives of social media platforms, as well as research digests, feature articles, *Ask an Expert* websites, knowledge-sharing platforms like *The Conversation* platform, explainers and lay summaries.

As social media practices, X/Twitter and Instagram offer platforms in which both author-generated and writer-mediated practices find room in the pursuit of scientific communication. This means that individual accounts of experts as well as institutional accounts from scientific organisations and research communities managed by a collective writer coexist within the same space. X/Twitter was chosen due to its still prominent position within scholarly contexts and research transfer (Pascual & Mur-Dueñas, 2022; Mur-Dueñas & Pascual, 2023), with the aim of looking into further uses related to knowledge dissemination and recontextualisation processes. In turn, Instagram was added to the SciDis Database in later stages of its compilation and revisitation, since it is gradually gaining ground as another digital reality that should be deemed as significant to disseminate science and distribute specialised knowledge to heterogeneous readers.

"Institutional X/Twitter posts" are published in official profiles managed by institutions, organisations, or entities such as universities, government agencies, corporations, non-profits, or other structured groups. Their accounts serve as "a means for the global transfer of information and the sharing of academic publications" (Sancho-Ortiz, 2024: 135). Through these X/Twitter post, institutions can communicate with a broader audience that includes the public, stakeholders, customers, students, and community members. The content shared in institutional X/Twitter posts typically reflect the organisation's mission, values, and objectives in a semi-formal register. It may include announcements, news updates, event promotions, research findings, policy changes, and community engagement. Behind the publication of these posts, there is often a specific communication strategy designed to build and maintain relationships with their followers, disseminate important information, answer non-expert questions, promote their brand, engage in broader discussions related to their area of focus, and gather feedback. Overall, institutional X/Twitter accounts may be managed by a team of social media specialists, public relations professionals, or communication experts, who ensure, alongside scientists and researchers, that the posts are consistent with the organisation's image and messaging guidelines.

"Individual X/Twitter and Instagram posts" are comprised in official profiles managed by individual users who hold academic and professional credentials which ensure the scientific validity of the content provided. They are authored by experts from the academic world such as researchers, university professors and lecturers, as well as experts from outside academia who work as professionals in the private sectors. The posts featured in these individual accounts address a diverse array of topics, ranging from strictly professional to purely personal content, and often mixing both. Professional content refers to topics related to academic and professional practices, which include publishing research articles, participating in conferences, receiving academic prizes, delivering specialised courses, and explaining specialised terminology and concepts, among others. Personal content alludes to aspects of the user's interests and life, such as their personal status, hobbies and events related to family matters. The combination of professional and personal content in these posts responds to experts' intention to establish a close relationship with their followers. Individual X/Twitter and Instagram posts often endorse audience engagement strategies intended for expert users to assert their position as professionals, disseminate knowledge and promote their personal brand.

A "research digest" is "a condensed version of a previously published research article" (Lorés, 2024a: 180). In other words, it is a concise summary or collection of summaries that distils and presents key insights from one scientific study or research article on a specific topic. The aim of a research digest is to provide a quick, accessible overview of the latest findings, trends, or developments in a field, allowing readers to stay informed without having to delve into lengthy or highly technical documents. Research digests are commonly used in academic and professional settings to help readers grasp the essence of a body of research, identify emerging patterns, and keep up with new advancements. They typically use clear language and organise information in a way that is easy to understand and navigate. Research digests incorporated into the SciDis Database include sources of information such as *The British Psychological Society*, *Science Daily*, and *European Commission*.

A "feature article" is a comprehensive and in-depth piece of writing typically found in magazines, newspapers, or online publications. Unlike news articles that focus on current events or breaking news, feature articles explore a specific disciplinary topic, issue, person, or event in more detail and from various perspectives. They often use a narrative approach, incorporating storytelling techniques, character development, and detailed descriptions to engage readers. Feature articles may cover a wide range of topics beyond the ones selected for the SciDis Database, such as culture, travel, history, health and social issues. They are designed to be informative and entertaining, offering a deeper understanding of the subject matter. Writers of feature articles often conduct extensive research and interviews to present a well-rounded and compelling narrative. The tone can vary from formal and investigative to personal and reflective, depending on the publication and target audience (Mur-Dueñas, 2024). Feature articles in our SciDis Database have been retrieved from online portals such as *Smithsonian Magazine*, *Popular Science* and *Nature*. In comparing the rationale of research digests and feature articles, whereas research digests transfer the results of a single research paper, the starting point for a feature article is a topic on which mediators elaborate from various points, bringing multiple expert voices into the text.

"*Ask an Expert* websites" are online asynchronous platforms where users can ask questions and receive personalised answers from knowledgeable specialists or experts within a particular disciplinary field in a user-friendly, accessible manner (Pascual, 2025). These websites facilitate the exchange of peer or expert support on a wide range of topics, which comprises not only health, economy and natural sciences, but also technology, legal issues, education and psychology. They provide users seeking guidance or clarification with reliable and accurate information, and boost opportunities for affective and cognitive engagement (Ocepek & Westbrook, 2015). Experts who contribute to these websites usually have recognised credentials, qualifications, or substantial experience in their respective fields. They are not only character-

ised by the quality and accuracy of the information provided, but also for their communicative and interactive value (Pounds, 2018). Responses by experts often include practical advice, explanations, or recommendations, and can serve as a valuable resource for individuals seeking formal insights without the need to look into academic research. Examples of sources of *Ask an Expert* websites collected in the SciDis Database comprise *MIT Climate Portal*, *GoAskAlice*, *PsychHelp*, *IDONTMIND*, *EatFresh*, and *Child Mind Institute*.

The Conversation is an independent, non-profit digital space that publishes news and analysis articles written by academic experts and researchers. Prior to their publication, these texts undergo an editing process supported by professionals working in this platform. The content on *The Conversation* aims to provide accessible and reliable information to the public, helping readers understand complex issues from a scholarly perspective. The platform covers a wide range of topics, including science, health, education, environment, politics, technology, and culture. The articles on *The Conversation* are typically based on rigorous academic research and are written in a way that is clear and engaging for a general audience. The platform seeks to bridge the gap between academia and the public, allowing researchers to communicate their insights and expertise directly to a broader audience (Herrando-Rodrigo, 2022). It also aims to promote informed public discourse by providing high-quality, fact-based content that is free from commercial bias. In addition to articles, *The Conversation* often offers commentary, expert opinion, and analysis on current events, making it a valuable resource for anyone interested in gaining a deeper understanding of various topics from credible academic sources. The platform is also open to republishing and sharing content to promote wider dissemination of knowledge. A similar digital space to distribute knowledge to non-academic audiences is *Science Media Centre*, which has also been considered in subsequent revisions of the SciDis Database.

"Explainers" are informative pieces of content designed to simplify complex concepts, processes, or events for a general audience, providing background information and boosting public outreach (Zou & Hyland, 2024). They aim to break down technical information into clear, understandable terms, for which they can take the formats of written articles, videos, infographics, or interactive multimedia presentations. They are frequently used in journalism, education, marketing, and science communication to help lay people quickly grasp specialised topics without requiring deep prior knowledge. They serve to inform and educate audiences about a wide range of subjects, from news events and scientific breakthroughs to technology trends and public policy issues. Key characteristics of explainers include clarity, as they are written in simple language, avoiding jargon, and focusing on essential points; logical structure, with information organised using headings, bullet points and step-by-step explanations; and engagement, incorporating visuals, animations, or storytelling elements to maintain interest and improve understanding. They are a valuable tool for disseminating information and promoting understanding in an accessible and engaging way, evidencing recontextualisation processes in which technical information stems from other academic sources (Herrando-Rodrigo, 2023). Instantiations of explainers have been retrieved from digital platforms like *The Guardian*, *Vox*, *MIT Climate Portal*, and *Our World in Data*.

A "lay summary" is a brief and simplified explanation of complex research findings, concepts, or technical details, designed to be easily understood by a general audience who lack expertise in that field. Lay summaries are often used in academic and scientific contexts accompanying traditional, publicly available abstracts in online publications and push the transparency and visibility of a piece of research (Kuehne & Olden, 2015). By avoiding technical jargon and using straightforward language to convey the key points and significance of disciplinary topics, information is made accessible and comprehensible not only to the public and non-specialist professionals, but also to collaborators, policymakers and stakeholders. In connection with the latter, lay summaries are also employed to communicate research findings back to participants in trials and surveys as well as to pitch proposals of investigation to non-expert funding boards

(Nunn & Pinfield, 2014). The production of lay summaries is tightly connected with research in the fields of health and biomedicine, so these texts have been collected from a variety of specialised journals hosted in the online repository *PubMed*.

In future research steps, it is our aim to continue to expand the SciDis Database with other digital practices that may be flourishing as part of experts' ecosystem of digital scientific practices. These could include institutional science blogs, pedagogical science websites, online popularising magazines, crowdfunding websites, TikTok as a Social Medium for Research Dissemination Purposes, science-themed podcasts run by experts to communicate new knowledge, educational YouTube channels devoted to the dissemination of science, and citizen science projects, which directly invite the public to participate in scientific research.

As follows in Section 3, we single out the analytical approaches and the practical applications that our research can unfold stemming from the exploration of the SciDis Database.

3. APPLICATIONS OF THE SCIDIS DATABASE FOR THE ANALYSIS OF DIGITAL RECONTEXTUALISATION

3.1. *Research strands for the exploitation of the SciDis Database*

As a dynamic compilatory collection of scientific digital texts to identify new discursive trends in online environments, the SciDis Database can be taken as the object for analyses comprising a myriad of discursive perspectives and frameworks. These may include digital discourse analysis, corpus studies, pragmatics, genre studies, metadiscourse or multimodally-driven approaches, among others.

From the conventional perspective of Genre Studies (e.g., Bhatia, 2004; Swales, 2004), the analysis of the texts conforming the database can serve to distinguish between fossilised, hybrid, and newly arising rhetorical structures in digital disseminating discourses. This would facilitate the characterisation of new rhetorical patterns and moves (Swales, 2004), and the study of concepts traditionally applied to academic texts, such as generic hybridisation and genre colonies (Bhatia, 2004, 2006). These generic connections can be further explored thanks to the distinction made in the database upon the typology of the practices and the different set of technological affordances available in the sites and platforms where they are hosted. Specifically, insightful remarks could be drawn as regards intertextuality and hypertextuality as means for knowledge recontextualisation, particularly focusing on the alternation of "reading and navigation modes" (Askehave & Nielsen, 2005) and on the role of "interactivity" (Adami, 2015) in digital media.

A more thorough look into the SciDis Database can also involve investigating the discursive differences inherent in the role of the expert as either knowledge-mediator or knowledge-generator. The database could be approached from metadiscursive perspectives, shedding light on concepts such as authorial stance (Hyland, 2005; Mur-Dueñas, 2011) and interpersonality (Lorés-Sanz, Mur-Dueñas & Lafuente-Millán, 2010), and refining conventional frameworks and categories in light of the digital medium. Moreover, pragmatic perspectives could be undertaken from various standpoints. Departing from speech-act, relevance-theoretic and politeness theories, our analyses may help uncover new patterns in the evolution of pragmatics online (Scott, 2022). Particularly, contributions to the field can be made by looking into data-driven analyses of pragmatic strategies that are salient in situated communicative contexts (Pascual, 2023). Pragmatic studies may likewise prove helpful in making connections with experts' construal of their identity and credibility (Sancho-Ortiz, 2025).

The SciDis Database could also be approached from a multimodal analytical perspective, as it is made of texts displaying multimodally complex discursive phenomena. Analyses could explore aspects like the combinations of semiotic resources and the degree of modal density

used to generate and transfer new scientific meanings making them comprehensible to multiple audiences. Thus, a multimodal approach to processes of "knowledge extension and enhancement" (Engberg & Maier, 2015) would contribute to the exploration of issues particular to digital communication such as "context collapse" and the need to differentiate between the intended and the imagined audience (Marwick & Boyd, 2011).

The study of these phenomena could also be enriched with the implementation of corpus-assisted methods such as collocation, frequency, concordance, and keyword analysis, as these would unveil recurrent linguistic-discursive patterns in the recontextualisation of expert knowledge. Therefore, quantitative findings in these corpus-based analyses could be complementary to qualitative data obtained through pragmatic, generic and multimodal approaches to eventually identify expert identity types for each of the variables included in the database (i.e., platform typology, that is, websites or social media, and agency of the text, that is, expert or mediator roles).

Furthermore, from the perspective of Knowledge Communication approaches (e.g., Engberg, 2023; Engberg, Fage-Butler & Kastberg, 2023; Engberg & Maier, 2015; Kastberg, 2010, 2019), the analysis of the SciDis Database could intend to "investigat[e] the intentional communication of specialised knowledge in professional settings performed as part of the practice of being an expert" (Engberg, 2023: 152). Departing from the understanding of knowledge as a social phenomenon, the database could be exploited to explore emerging communicative dynamics that concern both expert-to-expert and expert-to-non-expert knowledge communication. This includes the exploration of how knowledge is discursively recontextualised when catering for the various knowledge processing needs of an audience with diverse levels of expertise. Eventually, the study of the database from this perspective could cast some light on general knowledge processing differences between specialised and lay audiences, and on the blurring limits between knowledge-related notions such as dissemination and popularisation.

The analyses of the SciDis database presented above could be complemented with ethnographically-oriented methods involving both expert and non-expert participants. This would include, for example, the distribution of surveys and questionnaires among specialised expert groups to gain insights into their reliance and involvement in digitally-mediated scholarly and scientific practices to reach varied audiences. Similarly, semi-structured interviews and focus groups with both experts and non-experts could be conducted to assess their perceptions on the relevance of transferring knowledge through digital platforms and gather information on newly emerging disseminating practices that could be added to the SciDis Database. These ethnographic methods overall facilitate the adoption of a combined emic-etic perspective (Lillis, 2008) which demonstrate the consistency of the SciDis Database as a contribution to current discussions on the democratisation of science, particularly within the framework of the Participation Model as the currently governing trend in scientific production and communication.

3.2. *Research approximations to the analysis of the SciDis Database*

A major motivation driving the compilation of the SciDis Database is to foster its exploitation and reproduction as a means to explore practices of knowledge recontextualisation and scientific dissemination in digital environments. Bearing this in mind, some questions are proposed to apply the frameworks explained in Section 3.1 according to two variables. Text-oriented questions tackle processes of recontextualisation affecting the textual nature, structure and layout characterising the instantiations of the digital practices in the SciDis Database. Discourse-oriented questions deal with a more fine-grained level in which pragmatic and lexico-grammatical aspects of recontextualised texts are researched. They revolve around notions such as intention, terminology, evaluation, and engagement.

Table 1: **Guiding questions for the exploration of knowledge recontextualisation in digital scientific dissemination practices in the SciDis Database**

Selection and analysis of digital scientific dissemination practices and recontextualisation processes	✅
Text-oriented	1. Is there any specific textual relationship between the recontextualised digital text and the original source text?
	2. Are there explicit intertextual connections in the recontextualised digital text?
	3. Are there any interdiscursive patterns in the recontextualised digital text?
	4. Are there differences in the rhetorical structures of the recontextualised digital text and the source text?
	5. Does the multimodal layout of the source text change to accommodate the recontextualised digital text?
	6. Do the recontextualised digital text and the source text present different degrees of modal density?
Discourse-oriented	7. Does the authorial voice in the recontextualised digital text influence how knowledge is distributed?
	8. Are the author's intentions made self-evident in the processes of recontextualisation?
	9. Does evaluation play a significant role in how knowledge is conveyed in the recontextualised digital text?
	10. Are pragmatic strategies deployed to fulfil novel communicative goals in the recontextualised digital text?
	11. Is specialised terminology explained to make disciplinary knowledge accessible in the recontextualised digital text?
	12. Does the recontextualised digital text show differences in the engagement cues employed to involve the readership?

These questions have already guided pieces of research which adopt some of the theoretical perspectives outlined in Section 3.1 to explore the digital practices of science dissemination and knowledge recontextualisation comprised in the SciDis Database. Some of the research conducted so far includes analyses on knowledge comprehensibility in web-hosted practices of author-generated knowledge (namely, *The Conversation*) and writer-mediated knowledge (feature articles and research digests), approached through the study of verbal and non-verbal explanatory strategies like elaboration, explicitation, exemplification, enumeration, comparison/analogy, spatial organisation and visual representations (Mur-Dueñas 2024). Similarly, studies have also concentrated on specific dissemination practices, for instance, online research digests, exploring the introduction of (meta)discoursal features in varied semiotic and hypertextual formats to attain comprehensibility, credibility and engagement (Lorés 2023), the use of interactive metadiscourse markers as resources for comprehensibility (Lorés 2024a), and the exploitation of expert-oriented and audience-oriented pragmatic strategies to achieve a balance between authority enactment and knowledge accessibility in the recontextualisation process (Lorés 2024b).

These pieces of text-oriented and discourse-oriented research underpin the applications of the SciDis Database to work alongside those sectors of society interested in and benefited by scientific advancements. Future applications are already being considered from a pedagogical standpoint, looking into the potential exploitation of disseminating practices such as pedagog-

ical science websites as means for the teaching and learning of English as a Foreign Language (EFL) and into the replication of effective practices analysed for English for Specific Purposes (ESP). This pedagogical approach to the database would effectively enhance its alignment with the promotion of the Sustainable Development Goals given the current emphasis placed within current pedagogical trends on the development of students' socio-civic competence and sense of citizenship as key 21st century skills (Binkley et al., 2012).

Lastly, as applications of our work, the fact that the SciDis Database covers a diverse array of disseminating practices motivates us to share it as a public resource repository in the near future. We believe that this database constitutes a comprehensive illustration of up-to-date effective knowledge disseminating practices that might serve as a replicable model for other experts to contribute to the promotion of open science, and hence, its democratisation. Thus, we aim to draw on the results from our multi-layered analyses to design materials, such as video pills, infographics and deliverables. Additionally, we intend to offer training workshops for experts in which we can summarise and transfer our main findings on dissemination practices and they can learn how to integrate them when communicating online.

4. CONCLUSIONS

The SciDis Database stands as a contribution to the understanding of how scientific dissemination and knowledge recontextualisation operate nowadays in digital environments. This paper has provided a description of the database, including the methodological criteria established for its compilation as an encompassing, yet dynamic, representation of science dissemination practices online. Thematically speaking, the database collects digital disseminating practices from three scientific disciplines which recurrently trigger social interest and are openly subject to discussion: health, economy, and natural sciences. The focus on these disciplines demonstrates our intention to ponder issues that arise high social concern from a perspective that is aligned with Sustainable Development Goals (SDGs) proposed by the United Nations.

In this article we have also explained the two variables around which the SciDis Database is structured. First, we have taken a look at the typology of the practices based on the site in which they are hosted, resulting in a mutually-exclusive dichotomy between web-hosted and social media practices. Second, we have deemed the role of the expert as determinant in the transfer process, either as a generator or a mediator of knowledge. Author-generated knowledge has been argued to refer to cases in which experts are the authors of the final products in which recontextualisation processes can be observed, while writer-mediated knowledge has been claimed to involve an external agent other than the author in the circulation of scientific knowledge. The two variables and the practices included in the SciDis Database are believed to account for the different communicative scenarios afforded by the most popular digital platforms currently used by experts.

Moreover, an overview of the scientific dissemination practices conforming the database according to the aforementioned variables has been given. We have also highlighted other emerging practices we would like to explore in future research to keep on feeding the database, as it is our contention that it should be regarded as a living ecosystem in permanent development. Some examples are pedagogical science websites, science-themed podcasts, TikTok as a Social Medium for Research Dissemination Purposes, and online popularising magazines. Thus, we conceive the SciDis Database as a faithful representation of scientific dissemination digital practices to be updated as disseminating trends keep developing further.

Future applications for the database have also been outlined, with a focus on its potential to enrich the research carried out from discourse-oriented perspectives and frameworks. Specifically, our emphasis has been on the utility of the database to address, in an integrated manner, newly emerging discursive phenomena, such as genre hybridisation and intertextuality, authori-

al stance and online pragmatics, context collapse and expert identity, and intersemiosis, among others. Similarly, we have stressed the functionality of the database to explore the development of science dissemination dynamics from non-discursive perspectives, as are the framework of Knowledge Communication and ethnographic methods. In order to illustrate how some of these theoretical and analytical tenets can be specifically approached, we have offered a list of guiding questions to drive prospective analyses. It is our hope that these analytical cues may help other researchers face the study of recontextualisation processes within and outside the field of scientific dissemination.

The variability of the potential uses of the SciDis Database demonstrates its functionality to approach scientific dissemination and knowledge transfer as dynamic endeavours. Overall, we aim to contribute to the open discussion and circulation of scientific knowledge by compiling and analysing a database which comprises examples of current and trendy disseminating practices. Our ultimate goal is to make this database and its future analytical results accessible to other expert and non-expert communities through our website (https://intergedi.unizar.es/). Scientists, scholars and experts from diverse disciplinary fields may benefit from the findings of our research, and may raise awareness of the digital practices pinpointed in this paper in relation to specific analyses. On the whole, the SciDis Database may assist interested professionals in endorsing informed digital scientific dissemination practices, as well as users in consuming scientific content in more critical ways.

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