

**MAURIZIO GOTTI**  
**Università di Bergamo**

**The gradual shift of knowledge  
dissemination from print  
to digital academic genres**

---

# Italian research project - Bergamo Unit

- ✓ The research unit investigates how and to what extent **recent developments** in technology have impacted on **the language of academia** used for **knowledge dissemination** in the sciences and humanities.
- ✓ Adopting a combination of **quantitative and qualitative research** methods, we analyze ongoing trends in a range of representative academic genres, with special attention given to:
  - ✓ **the communicative purpose and discoursal construction of emerging genres;**
  - ✓ the extent of **linguistic variation / hybridisation** in **well-established genres.**

# Research themes

## 1. Emerging trends and features in online publishing

- ✓ This research aims to identify how English-medium academic journals exploit the affordances of online publishing platforms to engage readers and promote their content internationally.
- ✓ Relying on a well-known Internet archive resource (WayBack Machine), the corpus is designed to cover a time frame of approximately 15-20 years, in order to contextualise recent changes within individual websites.
- ✓ Issues of specific investigation: *titles, text structuring, lexical anchors for web-searches*
- ✓ The results are expected to shed light on how different journals use language, hypertext and other digital resources in the pursuit of their scholarly goals.

## **2. Knowledge dissemination by means of PowerPoint presentations both in academic conferences and in University lectures**

- ✓ **This research activity investigates the linguistic, metadiscursive and semiotic features of such texts**
- ✓ **This analysis is meant to point out the disciplinary and genre-related conventions of academic-specialized discourse in both symmetric (expert – expert) and asymmetric contexts (expert – training expert)**

## **3. Knowledge Dissemination through medical academic posters**

- ✓ **The aim of this investigation is to show how scientific communication is constructed in the written (and condensed) language of posters**
- ✓ **It also aims to detect how the reasoning path of scientists is reproduced in electronic medical posters, with particular reference to scientific claims validated by issues of evidentiality**

#### **4. Ethic and ideological implications of Knowledge Dissemination in recent genres of specialised communication**

- ✓ **This analysis focuses specifically on a few recent genres of specialised communication, such as**
  - **TED Talks**
  - **legal blogs (blawgs)**
  - **Twitter / Facebook medical news**
- ✓ **It highlights some ethical transformations undergone by sensitive specialised knowledge in the dissemination process**
- ✓ **The main fields investigated are:**
  - **medical**
  - **legal**

# **Papers presented / published on this last topic**

**Anesa, Patrizia 2018. *Hybrid Forms of Expertise in the Popularization of Legal Information: A Critical Genre Analysis*. Paper presented at the ALAPP conference in Cardiff on 17 September 2018.**

**Anesa, Patrizia 2019. Popularization and Democratization of Knowledge through Blawgs, *Iperstoria*, vol. 12 (forth.).**

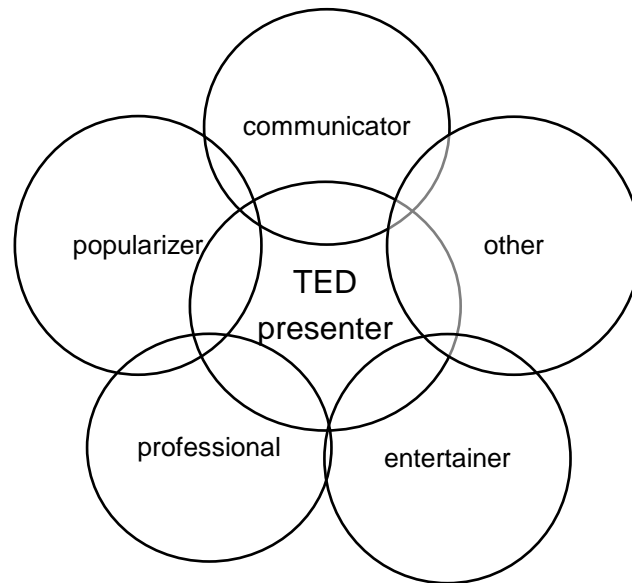
**Consonni, Stefania 2018. *From Stigma to Statistics: Mapping HIV Discourse in the US, 1986-2016*. Paper presented at the CLAVIER conference in Milan on 30 November 2018.**

**Maci, Stefania 2018. *Ideological dynamics and discourse strategies of fake news in medical science. The case of the anti-vax campaign*. Paper presented at the CLAVIER conference in Milan on 30 November 2018.**

**Sala, Michele 2018. *Knowledge dissemination and ideology-framing in digital communication. The case of law journal abstracts*. Paper presented at the CLAVIER conference in Milan on 30 November 2018.**

# **Knowledge Dissemination in TED Talks (Anesa 2018)**

- ✓ **TED talks (TTs) are considered highly influential and have been described as having an important popularization function**
- ✓ **People increasingly rely on the Internet for information, which, in the case of TTs, is easily accessible to a non-specialized audience**
- ✓ **TTs represent an effective way to promote knowledge regarding environmental law**
- ✓ **The fact of being TED presenters seems to automatically confer immense prestige to the speakers and consequently increase their credibility in terms of ethos**
- ✓ **However, the discursive construction of the expert status goes far beyond the mere recognition of authority: it implies the management of different forms of expertise vis-à-vis a given audience**



***Figure 1: Syncretic expertise***



## **Societal inferences**

- ✓ **TTs have considerable societal inferences, especially when the presentations are related to critical issues such as the environment, which directly affect everyone.**
- ✓ **The approach adopted by the speakers aims to aid the understanding and diffusion of certain concepts, promote critical reflection and encourage the audience to react (e.g. through comments).**
- ✓ **The dissemination of knowledge regarding environmental rights to some extent acts as a measure of corrective justice in that it aims to grant the public the possibility to actively shape environmental choices, not just at a personal level, but also at a political one.**
- ✓ **It is, thus, a way of arming people with knowledge tools which can help them make more conscious decisions and even correct environmental injustice.**

# **Popularization of Knowledge through Blawgs (Anesa 2019)**

- ✓ **This paper investigates the representation of environmental law in a specific genre, namely the legal blog (blawg) and, more specifically, the environmental blawg (EB).**
- ✓ **Legal blogs can offer new perspectives for the interpretation of environmental discourse and play an important role in the diffusion of updated information regarding environmental law**
- ✓ **A blawg addresses matters of jurisprudential importance and at the same time may serve a popularization function**
- ✓ **This process involves two hybrid communities:**
  - **one consisting predominantly of specialists**
  - **another including a vast array of participants, mainly non-specialists (extending to semi-experts, experts and professionals in other fields)**

- ✓ **A blawg lies at the crossroads between blogs in general and websites run by specialized lawyers**
- ✓ **Indeed, they display technicality and formality and tend to follow the guiding principles on which professional law websites are based**
- ✓ **But they also show a certain degree of flexibility, which can vary across the many sections of the blog (including disclaimers and personal commentaries or narrations of anecdotes)**
- ✓ **Blawgs can reach vast audiences which go far beyond the legal community**
- ✓ **The combination of textual resources with other semiotic resources (e.g. static and moving image, sound, music, etc.) favours involvement**

## **Blawgs as democratizing tools**

- ✓ **These features render blawgs important popularizing and democratizing tools, as they may contribute to the popular conceptualization of environmental law**
- ✓ **Law blogs are generally exempt from the risks connected with anonymity in that the bloggers' identity is usually manifest**
- ✓ **A blawg potentially allows for a multitude of views to be expressed, but the blogger's voice is generally predominant and clearly defines the main ideology traceable throughout the blog**
- ✓ **Other voices function as a corollary of ideas, which can be critical, in agreement, or irrelevant, but assume minor communicative power, whereas the blogger, ultimately, has control over the messages conveyed**

- ✓ **Comments tend to express approval and confirmation**
- ✓ **Clearly, this tendency may be favored by the possibility of the blogger to filter public comments**
- ✓ **Room for spontaneity seems limited although blogs represent important information sources**
- ✓ **Blawgs assume the role of tools which enable citizens to access information with minimal effort, linking them in communities often, although not always, sharing the same world view**
- ✓ **Therefore, a personal perspective regarding a topic can become the perspective of a community, a way to articulate a collective position**

## **Accuracy of information**

- ✓ **Given the sheer amount of information available online, it appears necessary that filtering processes are applicable and blawgs also provide this function, which renders selected information manageable**
- ✓ **This selection is, however, necessarily partial and tends to avoid divergent perspectives which are not in accordance with that of the blogger**
- ✓ **This may be seen as deviating from the concept of participatory democracy and informed awareness**
- ✓ **Specific blawgs seem to attract people in complete accord in a process which, instead of guaranteeing multiperspectival views, may actually generate vicious circles which overlook differing points of view**
- ✓ **Moreover, this disaggregated model may to some extent hinder the affirmation of concepts which are congruent with the legal doctrine, in that processes of popularization and simplification may alter the legal value of some of the information provided**

# Mapping HIV Discourse (Consonni 2018)

- ✓ **Aim:** How expert-to-expert written medical communication has changed in regard to the study of **HIV discourse**
- ✓ Four clinical specialties: **public health**, **molecular biology**, **immunology** and **infectious diseases**
- ✓ Investigation of **Research Article Titles** (RATs) published in medical journals worldwide from 1986 to 2016
- ✓ Medical RATs are **a crucial genre**:
  - Cognitive immediacy and emotional appeal
  - Production and validation of scientific information
  - Concise, complete, transparent: straightforward presentation of information
  - Indexing and search optimization of RAs, guiding retrieval of scholarly data and surrogating Ras
  - Attraction/persuasion within dissemination process
- ✓ **Research Question:** How has the language of medical RATs on HIV changed in the last thirty years?

# Corpus

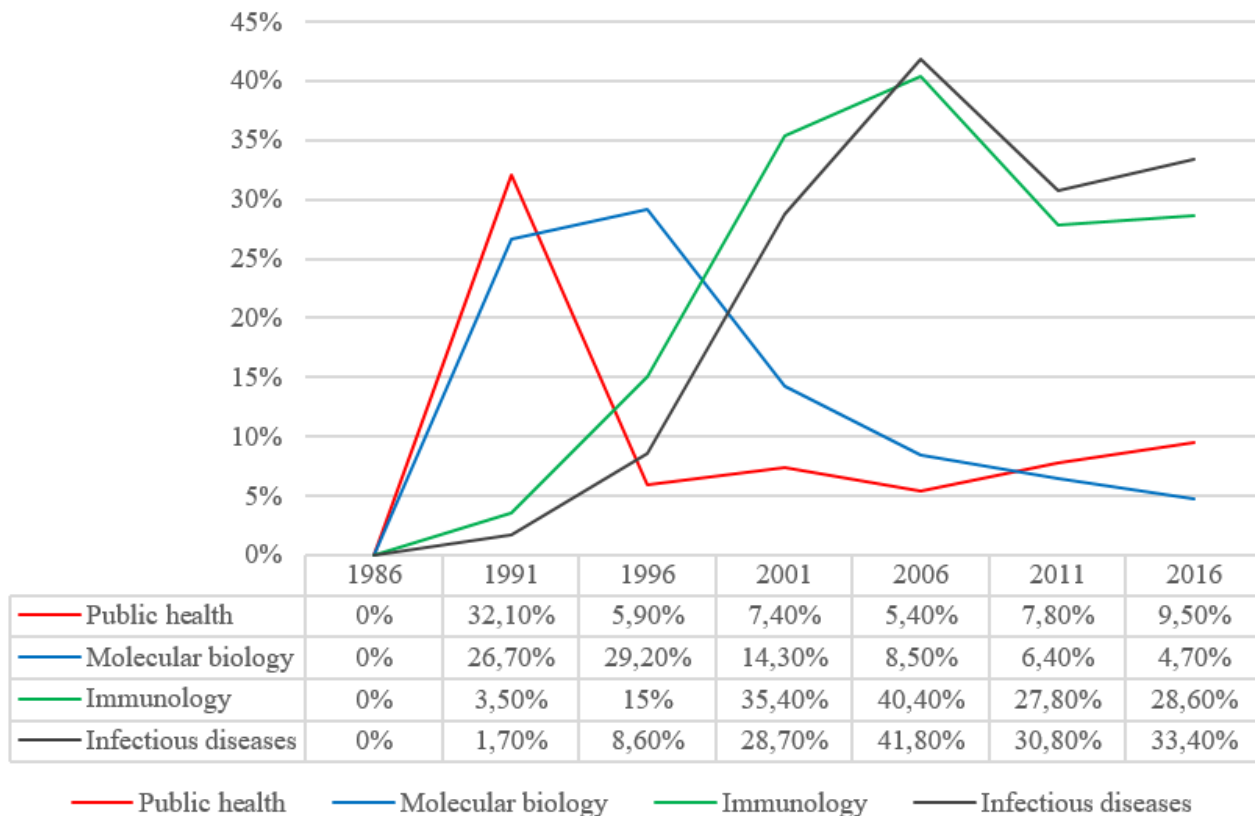
- ✓ **4,504 RATs from 423 journals indexed within Web of Science Citation Index-Expanded**

	<i>1986</i>	<i>1991</i>	<i>1996</i>	<i>2001</i>	<i>2006</i>	<i>2011</i>	<i>2016</i>	<i>Tot.</i>
1. Public health	0 (0%)	18 (32.1%)	13 (5.9%)	30 (7.4%)	46 (5.4%)	156 (7.8%)	216 (9.5%)	479 (8.3%)
2. Molecular biology	0 (0%)	15 (26.7%)	64 (29.2%)	58 (14.3%)	73 (8.5%)	128 (6.4%)	106 (4.7%)	444 (7.7%)
3. Immunology	0 (0%)	2 (3.5%)	33 (15%)	143 (35.4%)	343 (40.4%)	553 (27.8%)	648 (28.6%)	1,722 (29.8%)
4. Infectious diseases	0 (0%)	1 (1.7%)	19 (8.6%)	116 (28.7%)	355 (41.8%)	613 (30.8%)	755 (33.4%)	1,859 (32.2%)
TOT.	0 (0%)	36 (64%)	129 (58.7%)	347 (85.8%)	817 (96.1%)	1,450 (72.7%)	1,725 (76.2%)	4,504 (77.9%)

Table 1. No. of RATs in the WoS corpus, per year and per clinical specialty.



## Results (1) – The disciplinary matrix of hiv discourse



# Charting specialized knowledge about HIV

- ✓ The chart illustrates a cline of pathological meanings, with which HIV/AIDS has been associated in its history, stratified in the disease's perception:
  - 1980s            global **contagion alarm** and news media **stigmatizing** discourse (public health)
  - 1990s            **pathogenesis** and **diagnosis**, complex **aetiology** (molecular biology)
  - 2000s            **biological damage**, control through **vaccines** and **antiretroviral therapy** (immunology)
  - 2000s            global **systematic monitoring**, **containment** and **treatment**, **statistics-based** surveillance (infectious diseases)
-

# Conclusive RATs

- ✓ **Straightforward presentation of material + informative attractiveness**
- ✓ **Confident assertions presenting hypotheses as statements of fact**
- ✓ **Optimistic epistemological attitude: what is reported is not a one-off occurrence, research has yielded impregnable results**
- ✓ **Only 4 (out of 688) occurrences accompanied by hedging (*can*); no grammatical markers of reduced epistemicity**

*(1) Household water insecurity is associated with a range of negative consequences among pregnant Kenyan women of mixed HIV status [2016 public health]*

*(2) CDC42 and Rac1 are implicated in the activation of the Nef-associated kinase and replication of HIV-1 [1996 molecular biology]*

*(3) Microbial translocation is a cause of systemic immune activation in chronic HIV infection [2006 immunology]*

# Interrogative RATs

- ✓ Point to possible gap in knowledge about certain phenomena
- ✓ Cast doubts over previous research on the same topic
- ✓ Signal queries in need of reply, interpretation and conclusion
- ✓ Least preferred strategy

*(4) Can data for programs for the prevention of mother-to-child transmission of HIV be used for HIV surveillance in Kenya? [2006 public health]*

*(5) Is Nef a PAK animal? [1996 molecular biology]*

*(6) Do type and duration of antiretroviral therapy attenuate liver fibrosis in HIV-hepatitis C virus-coinfected patients? [2006 immunology]*

# Nominal RATs

- ✓ 'Block language', 'headlines', economy grammar
- ✓ No. 1 strategy: 51.4% of structures (2,317 occ.) but decreasing trend: 63.9% (1991) to 49.4% (2016)

*(7) Inpatient morbidity among HIV-infected male soldiers prior to their diagnosis of HIV-infection [1991 public health]*

*(8) Requirements for RNA polymerase II carboxyl-terminal domain for activated transcription of human retroviruses human T-cell lymphotropic virus I and HIV-1 [1996 molecular biology]*

*(9) Impaired development of HIV-1 gp160-specific CD8(+) cytotoxic T cells by a delayed switch from Th1 to Th2 cytokine phenotype in mice with Helicobacter pylori infection [2001 immunology]*

---

# Compound RATs

- ✓ Theme-Rheme clusters: T introduces the article's topic, R details particular aspects of the topic dealt with in the RA
- ✓ Framing RAT in 'general / specific', 'cause / effect', 'problem / solution', 'question / answer' sequences
- ✓ Highlight RA's weight in terms of informative content
- ✓ No. 2 strategy, with a regular tendency to increase over time: 20.2% (1996) to 34.5% (2016)

*(10) HIV prevalence, risk behaviours, health care use, and mental health status of transgender persons: Implications for public health interventions [2001 public health]*

*(11) Structure and stability of RNA/RNA kissing complex: Application to HIV dimerization initiation signal [2011 molecular biology]*

*(12) Viability and effectiveness of large-scale HIV treatment initiatives in sub-Saharan Africa: Experience from Western Kenya [2006 immunology]*

## Results (2) – Structural constructions across specialties

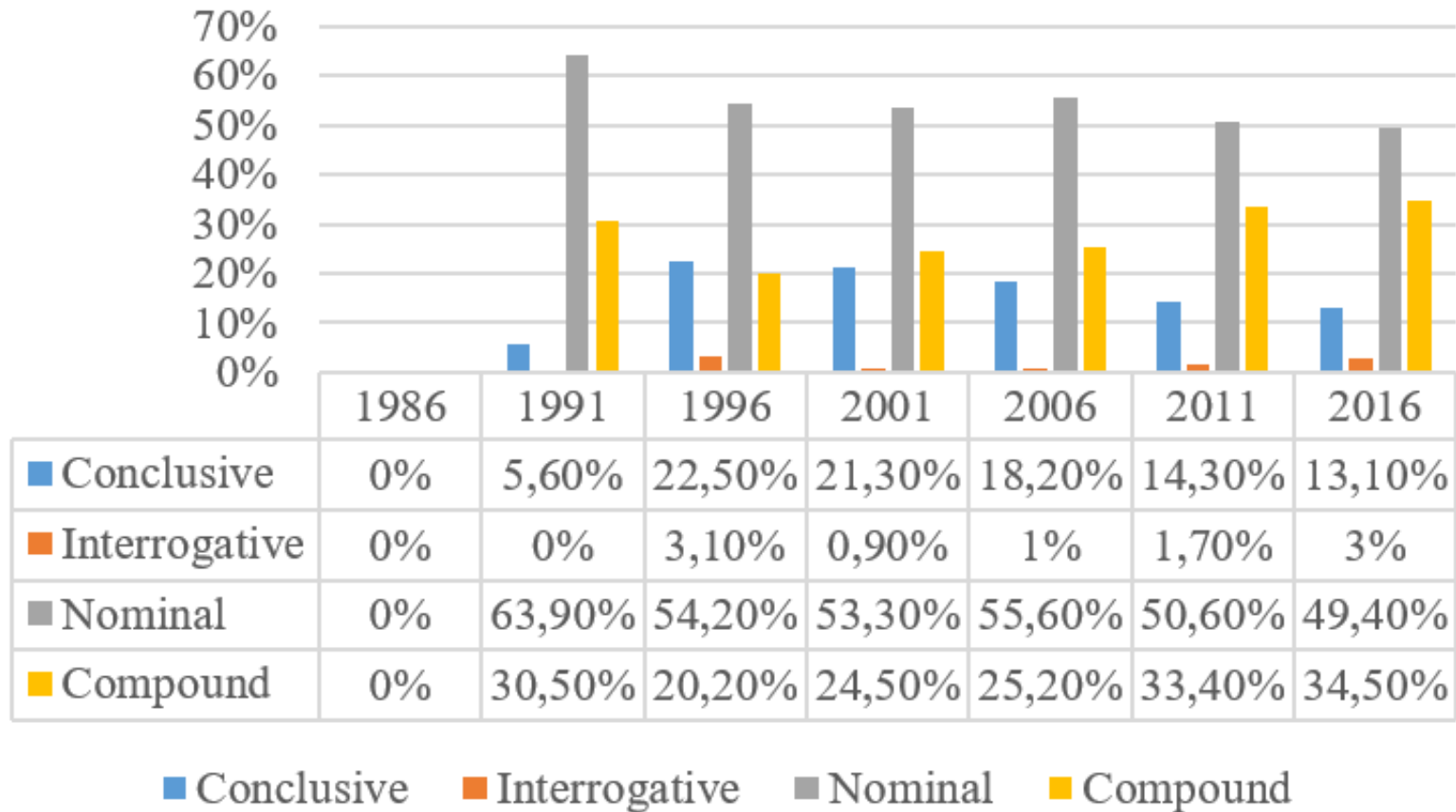


Chart 1. Distribution of syntactic constructions per year (all clinical specialties).

# Conclusions

**1) The frequency of conclusive RATs suggests a conflation between scientific and promotional language**

- ✓ **These ‘headlinese’ effects are employed to encode some degree of epistemological certainty on the topic**
- ✓ **Conclusive RATs were a typical strategy for the kick-off stage of HIV research, as the complexity of the disease’s biology was still to be taken into consideration**

**2) Nominal structures have a high capacity for highlighting a discipline’s main experimental concerns and keywords, and can thus be associated with science’s need for maximally condensed lexicalisation to cope with complex research**

- ✓ **This is also linked to the classificatory nature of biomedical discourse, which tends to handle its subject matter in taxonomical fashion, evidencing layer after layer of experimental knowledge through the piling up of lexical items in extended NPs.**



**3) The increasing frequency of compound syntax seems to mirror – through its theme/rheme, gap/filler patterning – science’s growing need for complementing informativity with persuasiveness.**

- ✓ A compound RAT is a good way to guide readers as to the cognitive sequence in which the article should be processed**
- ✓ In their informative and persuasive functions, compound RATs seem to textualize scientific discourse as a negotiation between hypotheses and phenomena, and as the social legitimization of methodologies and expectations**
- ✓ Compounds also mark the scientist’s positioning within the boundaries of a scientific system: communication is centred on the cognitive and hermeneutic appraisal of scientific contents, rather than on their authoritative configuration**
- ✓ Embedded in the increasing use of such strategy is the growing need of scientists to engage in discourse legitimization issues**
- ✓ Thus, beside the typical pragmatic functions of informativity, attractiveness and retrievability of articles, the genre of RATs seems to have developed a new epistemological function**