Jan Kochanowski University Press

Argumentation in academic discourse: The case of Nobel Prize lectures in Economic Sciences

Rita Salvi

Sapienza University of Rome

> *Rem tene, verba sequentur.*
> [Grasp the subject, the words will follow.]
> Cato the Elder, 234-149 BC

ABSTRACT

Nobel Prize lectures in Economic Sciences are examined in this contribution as an example of highly specialized discourse, reflecting all the features of a genre relevant to a discourse community (Flowerdew 2015). A corpus has been built, including all the 29 lectures delivered by the winners over a time span of fifteen years (2001-2015); the written version of the lectures has been considered in order to identify patterns of argumentation (Hyland 2013, van Eemeren 2019). An integrated methodology has been adopted, combining a corpus and a discourse perspective. The results of the analysis have shown examples of lexical indexicality and underlined some discourse markers, be they causal, temporal, additive or hypothetical, frequently adopted to develop the topics. Discourse analysis has shown how argumentation is constructed across a variety of fields through the exposition of models, methods and theories, at a symptomatic, comparative and causal level (van Eemeren – Grootendorst 1992). Particularly, comparative and causal features of the language have been illustrated with reference to "expectation", which is the most prominent domain in this context. Moreover, some rhetorical strategies have been presented, such as the use of questions, narrative and figurative language, which characterize the relationship between the Lecturer and the audience.

Keywords: academic discourse, lectures, text and discourse analysis, ESP: the language of economics.

1. Introduction

This contribution explores academic discourse, focusing on the linguistic analysis of lectures in their argumentative perspective. Argumentation as

a general notion refers to a process of systematic and methodical reasoning with the aim of arriving at a conclusion or solving a particular analytic problem by formulating a set of coherent and relevant arguments. Within this broad definition, Frans H. van Eemeren (2019) indicates some factors which affect the argumentative style, such as the medium used, the degree of formality of the occasion, the norms that are being played with and the contextual domain in which the discourse takes place. This study examines lectures as a distinct form of institutional discourse, in which speakers show their authorial presence and academic prestige, by establishing an interpersonal relationship with the audience, often with a variety of reporting, persuasive and, why not, encomiastic purposes.[1] "Authority – as Hyland claims – is partly accomplished by speaking as an insider, using the codes and the identity of a community member. But it also relates to the writer's convictions, engagement with the reader, and personal presentation of 'self'" (Hyland 2001: 209). Far from being a static genre, lectures result in typified rhetorical actions inherent to social and cultural situations in an evolutionary perspective, requiring flexibility and innovation on the one hand, and responding to audience expectations on the other (Bhatia 2008). They fully show the interactive nature of academic discourse, which in turn involves communication between experts, and between experts and educated people in our case (Hyland 2013). In particular, Nobel Prize lectures are strictly formal, culturally-organized, planned speech events and the speaker's authority is an incarnation of "the epistemic conventions of the discipline" (Hyland 2006: 21). Lectures in Economic Sciences are examined here as an example of highly specialized discourse, reflecting all the features of a genre relevant to a discourse community, as acknowledged by Flowerdew (2015): they realize the public goal to transmit knowledge and are recognized by the discourse community which shares specialized terminology and a suitable degree of relevant content and discoursal expertise.

    With this in mind, a corpus has been built that includes 29 Noble Prize lectures delivered by the winners over a time span of fifteen years (2001-2015, see Appendix I). The written version of the lectures has been considered.[2] The

---

1   For example: "This lecture is dedicated to the memory of Jean-Jacques Laffont. It is of course unlike any lecture I had ever given. It is filled with emotion, intellectual indebtedness and very fond memories." (Tirole, Nobel Prize Lecture 2014)

2   Since 1901, the Nobel Prizes have been presented to Nobel Laureates at ceremonies on 10 December, the anniversary of Alfred Nobel's death. As stipulated in Nobel's will, the Nobel Prizes in Physics, Chemistry, Physiology or Medicine and Literature are awarded in Stockholm, Sweden, while the Nobel Peace Prize is awarded in Oslo, Norway. Since 1969 an additional prize has been awarded at the ceremony in Stockholm, the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel. There have been 79 Laureates between 1969 and 2017.

Nobel Foundation's statutes require each winner to give a lecture explaining his/her work; lectures are usually delivered on December 8 and help define a laureate's work for posterity, but sometimes they do much more, providing inspiration for future generations of scholars and public figures. "Knowing the historical importance of such speeches adds to the excitement", says University of Chicago Prof. Roger Myerson, who won the economics Nobel in 2007; "I loved the challenge," Myerson says. "The Nobel Prize is not just for individual people, it's for a body of work. Laureates honor that body of work by talking about its significance, and that's a tall order. Some Nobel lectures have become famous papers that made major statements." (http://www.uchicago.edu/features/what_makes_nobel_speeches_endure/)

Indeed, these lectures in their published form are for an audience wider than that of the lecture delivered at the Nobel ceremony. Although dealing with economics, the topics discussed are very heterogeneous, reflecting each speaker's academic specialization and cultural interests. Sharing the epistemology of their discipline, the speakers aim to transmit their own knowledge in the field. In doing so, they communicate their personal experience (also adopting narrative strategies) and explain their results (through expository strategies). But economics is a social science, therefore argumentation strategies are needed to either convey authority or engage with the audience, in any case to increase the effectiveness of the speakers' discourse.

In an attempt to include different perspectives for language analysis, the paper will first describe the features of lectures as a genre; then it will discuss the role of argumentation in lectures. A presentation of the corpus will be provided, with an analysis and discussion of the data collected, before tracing out some closing remarks.

2. Theoretical framework

2.1 Lectures as a genre

Albeit not a homogeneous genre, which can include talks and speeches delivered in different institutional occasions, lectures have maintained a macrostructure generally constituted by a certain number of expositions

---

Only one woman has been awarded the Prize in Economic Sciences so far, Elinor Ostrom (US), in 2009. Up to 2007, nine awards had been given for contributions to the field of macroeconomics, more than any other category. The institution with the most affiliated Laureates in Economic sciences is the University of Chicago, which has 29 affiliated Laureates.

within which a "focal episode", various "developmental episodes" and a "closing episode" are collocated (Bhatia 2004: 46). Present trends in academic rhetoric influence the structure of lectures (Helal 2013): globalization and media require changes in the exposition, and make lectures a more hybrid genre than in the past. They aim, however, at broadening the consensus of the audience about the theories discussed and, based on the speaker's authority as the linchpin of the communicative event, they intend to persuade and stimulate complicit cooperation for prospective pragmatic decisions.

Bakhtin (1986) emphasized the dialogic qualities of lectures, and more recent genre studies (Bawarshi – Reif 2010) acknowledge their dynamic and interactive nature. Furthermore, lectures on economic topics, usually published in English, are intended for a supranational scientific community. This involves a high degree of shared knowledge as well as an interwoven structure of contents and contexts, which corresponds to a deep level of intertextuality, as described in Fairclough's framework: "basically the property texts have of being full of snatches of other texts, which may be explicitly demarcated or merged in, and which the text may assimilate, contradict, ironically echo, and so forth" (Fairclough 1992: 84). Furthermore, Bazerman (2004: 94) states that "intertextuality is not just a matter of which other texts you refer to, but how you use them, what you use them for, and ultimately how you position yourself as a writer to them to make your own statement". This is of particular interest in the field of economics, in which discourse and argumentation are based on a hypothesis/thesis pattern, a problem/solution model or a chain of cause/effect relations, and include several ramifications in the discipline which influence rhetorical choices and discursive strategies (Salvi 2011, 2012). Therefore, we expect that either "manifest intertextuality" (quotations, citations and paraphrases) or "functional intertextuality" (a text as part of a larger system of texts) will emerge from the study.[3]

Lectures can also be an example of interdiscursivity (Foucault 1969, Fairclough 2003), as they represent a combination of spoken discourse (the speech of a lecture) and written mode (the published version); both forms contribute to construct knowledge and awareness within disciplinary communities.

However, the case of Nobel Prize lectures is quite different from other academic contexts in that the delivering of the speech is compulsory

---

[3]   For example, as far as verbs are concerned, the most frequent in the corpus is to see (441-0.15%), as it is used extensively to introduce bibliographical references ("see the comments by Paul Samuelson 2004"; "see e.g. Paul McCarthy 2013"), which immediately confirms the high level of intertextuality.

in accordance with the Statutes of the Nobel foundation.[4] It is therefore the occasion for the winners to reveal "epistemic beliefs, and institutional structures of academic communities" (Hyland 2013: 2), projecting their personal competence onto a shared professional context. The text, delivered orally, is obviously reviewed for a written edition (published online at the Nobel Prize Foundation's website, https://www.nobelprize.org). In many respects the communicative style of the lectures can be best appreciated by tracing the rhetorical characteristics of the language of economics illustrated by McCloskey (1983, 1986), because "rhetoric is exploring thought" (1983: 483) and "the rhetoric of economics is a literary matter" (1983: 499). Therefore, as McCloskey says, literary devices such as metaphor, analogy, metonymy and synecdoche, can improve economic prose and argumentation, the relationships between economics and other disciplines, and even the economists' temperament: "A rhetorical criticism of economics can perhaps make economists more modest, tolerant, and self-aware, and improve one of the conversations of mankind" (1986: 53).

Another key to the interpretation of texts, which can easily be applied to lectures, is offered by Hyland:

> Rather than simply examining nature, writing is actually seen as helping to create a view of the world. This is because texts are influenced by the problems, social practices and ways of thinking of particular social groups. In other words, discourse is socially constitutive rather than simply socially shaped; writing is not just another aspect of what goes on in the disciplines, it is seen as producing them. […] Research is essentially a social enterprise, both in the sense that it is an immediate engagement with colleagues and that it is mediated by the social institutions within which it occurs. […] But while disciplines are defined by their [academics'] writing, it is how they write rather than simply what they write that makes the crucial difference between them. […] Scholarly discourse is not uniform and monolithic, differentiated merely by specialist topics and vocabularies. It is an outcome of a multitude of practices and strategies, where what counts as convincing argument and appropriate tone is carefully managed for a particular audience. (Hyland 2013: 3)

---

[4] "It shall be incumbent on a prizewinner, whenever this is possible, to give a lecture on a subject relevant to the work for which the prize has been awarded. Such a lecture should be given before, or no later than six months after, the Festival Day in Stockholm or, in the case of the Peace Prize, in Oslo." (https://www.nobelprize.org/about/statutes-of-the-nobel-foundation/ § 9).

Considering the academic role of Nobel Prize lectures, this contribution examines some specific discourse functions, such as informing (through lexical salience) and elaborating (through discourse organization and exemplification). The evaluative language that may emerge is not so much in respect of the construction of the Lecturer's identity, as this has already been amply affirmed in the Nobel Prize context, but rather in relation to his argumentative coherence.

2.2 Argumentation in lectures

Aristotle divided argumentation into three genres: forensic or legal (which requires verdicts on past action), deliberative or political (which seeks judgement on future action) and epideictic or ceremonial (which concerns values and seeks no specific decisions, as in lectures). For Aristotle, the epideictic genre was of limited importance in the civic realm since it did not concern facts or policies. Perelman and Olbrechts-Tyteca, in contrast, believe not only that epideictic rhetoric warrants more attention, but that the values normally limited to that genre are in fact central to all argumentation. "Epideictic oratory – they argue – has significance and importance for argumentation because it strengthens the disposition toward action by increasing adherence to the values it lauds" (1969: 50). These values, moreover, are central to the persuasiveness of arguments in all rhetorical genres since the orator always attempts to "establish a sense of communion centred around particular values recognized by the audience" (1969: 51).

As the strategic manoeuvring develops in argumentative reality, van Eemeren and Grootendorst (1992) describe the three argument schemes which are fundamental to pragmatic choices: in "symptomatic" argumentation the scheme is used to establish a relation of concomitance between the argument concerned and the standpoint that is supported, so getting a personal opinion accepted; in "comparison" argumentation a relation of comparability is established; in "causal" argumentation a relation of causality is sustained, that can be instrumental in establishing the truth of a scientific claim in an academic setting (van Eemeren – Grootendorst 1992: 94-102).

All in all, lectures can be considered an excellent example of parrhesia, that mode of discourse in which – following Michel Foucault's study of discourse in ancient Greece – a person speaks openly and truthfully about opinions and ideas. In his lectures at the University of California, Berkeley, in 1983 (lectures edited by Joseph Pearson in 2001) Foucault sums up the Ancient Greek concept of parrhesia as such:

> So you see, the parrhesiastes is someone who takes a risk. […] In a political debate, an orator risks losing his popularity because his opinions are contrary to the majority's opinion […]. In parrhesia, the speaker uses his freedom and chooses frankness instead of persuasion, truth instead of falsehood or silence, the risk of death instead of life and security, criticism instead of flattery, and moral duty instead of self-interest and moral apathy. (Foucault 2001: 19-20)

Although giving a lecture does not imply a risk to the speaker's life (at least we hope not nowadays), many factors pertinent to the present inquiry can be gleaned from the previous quotation: definitely, the basic principle to tell the truth, also for the benefit of the community; critical skills to describe theories and policies; the attempt to overcome personal interests. In our case, however, lectures also show the use of rhetorical devices which involve a certain number of persuasive functions necessary to deliver information and build consensus. To reach these objectives, Nobel Prize winners adopt multifarious argumentative patterns, instantiated in techniques of definition and description, association/dissociation, classification/comparison/connection, exemplification, application. These techniques concern mainly the argumentative procedure, but they also contribute to the process of knowledge transfer, as described by Calsamiglia and van Dijk (2004).

Another aspect will be considered here in relation to argumentation, namely the use of narrative as a means to make discourse coherent and meaningful and as a way to appeal to the audience. Narrative will be explored along the lines traced by Julio C. Gimenez (2010: 199), "narratives are sociolinguistic manifestations as well as discursive constructions of an array of social processes. […] A sociolinguistic analysis of narratives should examine not only their formal elements but also the sociolinguistic elements that surround narratives, thus furthering our understanding of the social phenomena reflected in individual narratives".

3. Corpus and methodology

A corpus has been built including 29 Nobel Prize lectures in Economic Sciences in the time span between 2001 and 2015, that is all the lectures delivered by the winners and published online (except Thomas J. Sargent's

lecture, USA 2011, for which only slides are provided).[5] The corpus consists of about 280,000 tokens (277,512 precisely) for 14,180 types. The TTR (Type/Token Ratio) is 5%, a percentage which, together with the high number of hapax words (5,600),[6] gives an idea of the heterogeneity of the topics dealt with (see Appendix I), albeit in the field of economics. The lectures are of different lengths, ranging from 757 words (Shapley 2012) to 36,622 (Stiglitz 2001). The data have been run through different software tools for corpus analysis: *ConcApp* (Greaves 2005) for the detection of frequencies and collocations; *Wmatrix* (Rayson 2009) for retrieving word lists and semantic domains; *ConGram* (Greaves 2009) for phraseological configurations and discursive/argumentative structures.

However, considering the lexical salience of the corpus in relation to the content and context, an integrated methodology has been adopted, combining the quantitative analysis with a discourse perspective, following the theoretical premises presented in the previous section.

The analysis of the data has been carried out following Michael Stubbs' (2010) approach: in a corpus-driven perspective, "keyness" and "aboutness" will be therefore exemplified as significant factors of meaning expressing shared values and, at the same time, as a mirror of the social institution involved.

4. Interpreting quantitative data

In light of the symptomatic, comparison and causal argumentation schemes outlined by van Eemeren and Grootendorst (1992), in this section some elements, namely phraseology and conceptual fields detected from the quantitative data, are illustrated to guide the interpretation of the texts in their argumentative dimension.

---

[5] Almost all the lectures include tables, diagrams, theorems and mathematical formulas which have not been analysed. (Only the following Lecturers do not use figures: Stiglitz 2001, Akerlof 2001, Granger 2003, Schelling 2005, Hurwicz 2007, Williamson 2009.)

[6] Hapax words often express very technical concepts, as in Mortensen 2010: "This activity is reflected in the fact that a recent issue of the *Journal of Labor Economics* was devoted to this approach to understanding monopsony in the labor market." (Monopsony is a situation in a market in which there is only one buyer for goods or services offered by several sellers.) In other cases, hapax words express analogy and metaphor, as we will see later (Excerpt 39).

4.1 N-grams

A first step towards contextualization can be taken by analysing the most frequent group words as they appear in the 4-gram list, of which the first five are shown in Table 1.

Argumentation is immediately manifest through the use of "on the other hand" to introduce statements that describe opposite ideas or modify/supplement a previous viewpoint. Slight changes or contradictions of a previous statement are also expressed by "at the same time".

Table 1. 4-grams

4-gram	Frequency
on the other hand	27
in the case of	24
the size of the	22
at the same time	21
in the context of	21

(1)   On the one hand, we need to compare like with like, using only goods and services that are close to identical in different countries. *On the other hand*, we also wish to capture what people actually spend, so that we want to use goods and services that are widely consumed and representative of actual purchases. (Deaton 2015)

(2)   The patterns of behavior that have been observed in speculative asset prices are consistent with a view of market efficiency as a half-truth today and *at the same time* with a view that there are behavioral complexities in these markets that need to be met with properly engineered financial innovations and financial regulations. (Shiller 2013)

"In the case of" and "in the context of" contribute to defining the territory and the situations within which events happen and the circumstances under which a hypothesis can be explained and verified, this being the most typical function of the language of economics:

(3)   For example, *in the case of* a non-marketed good, the net return for the firm is for a cost-plus contract, for a fixed-price contract, and between 0 and 1 more generally. (Tirole 2014)

(4)   By quantifying the information in the signals for example how many units or what the dimension is of the spaces used *in the context of* rigorously formulated models, it has been shown that […]. (Hurwicz 2007)

Finally, "the size of the" does not only indicate an amount or a dimension, it also implies a comparison: in this case, the specific language needs to express the concepts of "counting" and "measuring".

(5)   *The greater* the initial excess of the expected inflation rate over its rest point, of course, *the greater* is *the size of the* optimum deviation of actual inflation from expected inflation, and thus *the greater* is the initial increase in unemployment. *The smaller* is the utility discount rate, *the lower* is the rest point target for the expected inflation rate and *the greater* is the optimum size of the initial shortfall *the greater*, then, the near-term pain and the long-term gain. *The greater* is the costliness of decreased employment, *the smaller* is the optimum initial deviation, *the smaller*, then, the optimum deviation of unemployment from its natural level and thus *the slower* the speed of the disinflation. (Phelps 2006)

4.2 Semantic domains

Tellingly, the 4-grams correspond to the key domains detected by Wmatrix.

Business
Cause&Effect/Connection
Change   **Cheap**
Comparing   **Constraint**
Danger   **Deciding**
Education   **Ethical**   **Evaluation**

Expected   **Inclusion**
Investigate, examine, test, search
Knowledge   **Measurement**
Money: Cost and price
Quantities: many/much   **Quantities: little**
Social Actions   **Success and failure**
Useful   **Work and employment: Professionalism**

Figure 1. Key Domains

For the purpose of the present analysis, it is interesting to focus on the conceptual fields signaled in a prominent position by the analyzer, that is "Comparing" and the group "Cause&Effect/Connection", together with "Expected", which is even highlighted in red in the original.

Starting from the concept of "expectation", data reveal 203 (0.07%) occurrences of the noun (singular and plural) and 291 (0.10%) of "expected" (adjective and past participle), whereas the verb shows only 40 occurrences (0.01%). It is worth noting that "expectation(s)" is often used with reference to statistical projections as in (6), although it is also found in its denotational meaning as in (7).

(6)   Alternative approaches were suggested including static *expectations*, adaptive *expectations* or appeals to data on beliefs […] To be clear, rational *expectations* offers an approach for comparing distinct stochastic equilibria but not the transitions from one to another. […] The ratio has conditional *expectation* equal to unity, and this term reflects how new data that arrive between dates t and t + 1 are incorporated into the relative likelihood. (Hansen 2013)

(7)   The provision of insurance affects the willingness of workers to accept particular jobs, making it more attractive to pass up some opportunities in *expectation* of doing better later. (Diamond 2010)

"Expected" is present in many collocations which are also frequent nowadays in contexts that are not highly specialized, once again with reference to statistical projections: *the expected inflation rate/marginal utility/lifetime/profit margin*. It is nevertheless interesting to see how "expected" often collocates with comparative forms: *a higher expected profit*; *the larger expected utility*; *a lower expected return*. It thus confirms that forecasting and the estimation of parameters are fundamental features in the field of economics.

"Comparison" is another domain of interest. Together with "expected", it is expressed in connection with temporal deictics (*whenever prices fell below the level expected*; *over such long periods, expected returns are larger*) and in the formulation of hypotheses (*demanding higher expected real wage gains at lower rates of unemployment*; *the behavior is much more variable than is expected from outcome-based utility models*; *workers demand nominal wage increases in excess of expected inflation*).

A closer analysis of comparison in context reveals that, beside the frequent use of *more* (818-0.29%), the high number of occurrences of *most*

(272-0.09%), and *better* (173-0.06%) cannot go unnoticed, which reflects the positive thinking and success in the field.

(8)   These arguments are much *more* widely accepted today than they were thirty years ago. (Deaton 2015)

(9)   In my view, finance is the *most* successful branch of economics in terms of rich theory, extensive empirical tests, and penetration of the theory and evidence into other areas of economics and real-world applications. (Fama 2013)

(10)   Unemployment is instead the outcome of a decentralised equilibrium, which may or may not be optimal. It seemed to me that the two-sided matching view had a *better* chance of success, both in grounding itself in microeconomic theory and in interpreting the facts about unemployment. (Pissarides 2010)

Even more interesting, collocations detected by Wmatrix within the comparing domain include a lot of different words which imply a comparison; only a few examples can be given here, underlining that they all relate to the specific technical content: *the well-known <u>variation</u> in expected bond returns*; *to capture the <u>variability</u> of time series data*; *the share of healthcare spending <u>ranges</u> <u>from</u> 27 percent <u>to</u> 74 percent*; […] *from many studies using both <u>cross-section</u> and time series;* […] *that provide <u>different</u> combinations of co-variances*.

The domain "Cause&Effect/Connection" is even more articulated: the raw data generate 420 outputs in the Wmatrix list which need to be organized for interpretation, making direct reference to the whole text. Therefore, four broad categories have been selected manually, namely adjectives, nouns, verbs and causative prepositions/linking words.

Adjectives represent the smallest group; they can express either effect (*resulting* predictability of stock) or connection (*related* econometric methods; macroeconomic shocks *pertinent* to investors) always within the specific content. Here is an example of a sentence where the adjective 'conditional' is used in its technical connotation:

(11)   The insight in Fama 1975, applied by me and others in subsequent papers, is that a regression estimates the *conditional* expected value of the left-hand-side variable as a function of the right-hand-side variables. (Fama 2013)

In addition to the basic lemmas "cause(s)"/"effect(s)" together with "connection(s)", very many other nouns fall into this domain, such as *consequence*, *impact*, *result*, *implication*, *interplay*, *link*, *reason* and *relation*:

(12)   Stochastic discount factors are closely *connected* to the "risk-neutral" probabilities used in valuing *derivative* claims. This *connection* is evident by dividing the one-period SDF by its *conditional* mean and using the *resulting* random variable to define a new one-period *conditional* probability distribution, the risk neutral distribution. (Hansen 2013)

The short example above shows many words related to the domain considered here, in particular the term "derivative" (included in the group of nouns) which is used in financial analysis.

A long list of verbs is necessary to indicate all those used in the domain: *to produce*, *to generate*, *to lead to*, for example, to express the cause/effect relation; *to combine*, *to give rise* or *to tie* to express connection. *Related to* occurs 56 times (0.02%), all of them necessary to support the argument under scrutiny:

(13)   The variance bounds test rejections of market efficiency could not be dismissed as correct but unimportant, as were the inefficiencies that the efficient markets literature had discovered, for they suggested that most of the variability of the aggregate stock market was not explainable as *related to* information about future fundamentals. (Shiller 2013)

So far, the three schemes ("symptomatic", "comparison" and "causal" argumentation) have proved to be functional to the development of the specialized topic. They are also functional to set the basis of the argument proposed by the Lecturer, who states the point, compares procedures and results, and describes or explains phenomena. Other layers of argumentation accomplished by rhetorical choices remain to be analysed.

5. A survey of textual strategies and rhetorical choices

The complex discourse of lectures is characterized by the intertwining of strategies and rhetorical choices used by the speaker in order to give a representation of the facts and an interpretation of the relevant data as well as to support his argument and underline his authority and credibility.

Some of these features are described in this section. It is interesting to note, however, that a sentence can represent an example of more than one strategy and can perform more communicative functions. For example:

(14)   What I am going to describe for you is a revolution in macroeconomics
        […] (Prescott 2004)

This is the opening sentence of the lecture, which introduces the topic. As such, it delivers the speaker's intention and stance, marked by the use of the first person pronoun. The word "revolution" captures the listener's attention and arouses his curiosity: it can be considered a way to appeal to the audience. The dialogic form "to you" contributes to establishing an immediate relationship between speaker and audience. The paragraphs which follow can only give a glimpse of the wide scenario.

5.1 Positioning the speaker

In spite of its high score (1,074-0.38%), the first person pronoun *I* is used less frequently than in non-Nobel Prize lectures (see Salvi 2012: 86; for example, its percentage is 0.44% in Galbraith's lectures and even 0.72% in Stiglitz's). The first person pronoun is used either as a marker of self-representation or as a means of metadiscursive practice (Salvi 2013: 34). However, in the Nobel Prize context, self-representation is based more on exposition and reasoning rather than on personal identity, which is obviously taken for granted. *I* appears often in introductory paragraphs to either signpost the speaker's stance[7] or organize the discourse:

(15)   *I* want to tell you about the theory and practice of market design […]
        I should say personally that *I* am delighted to be recognized for work
        that we are still very much engaged with. (Roth 2012)

(16)   The announcement of this year's Prize cites empirical work in asset
        pricing. *I* interpret this to include work on efficient capital markets
        […] (Fama 2013)

---

7   Here is an example of how the Lecturer's position is clarified: "I don't mean just the monetary
     discount rate, what you get in the bank. I mean the personal, subjective discount rate" (Aumann
     2005).

(17)   *I* will start this lecture with some general thoughts on […] *I* will consider the discourse in the profession […] *I* will focus on the statistical methods […] (Shiller 2013)

(18)   Yet, like the committee, *I* believe that the work has an underlying unity. (Deaton 2015)

The use of *we* (1,011-0.36%) is more problematic to interpret, as it indicates different in-groups: in (15), when Professor Roth (2012) mentions a "work that *we* are still very much engaged with", he is referring to "many of my colleagues [who] are here in the audience and they are all waiting for me to get back to work". For his part, Professor Sims (2011) uses *we* instead of *I* partly to adopt the style of academic writing, but also to involve the audience: "*We* will be tracking two interrelated strands of intellectual effort: the methodology of modelling and inferences for economic time series, and the theory of policy influences on business cycle fluctuations". And when Professor Maskin (2007) says "What *we* mean by an "outcome" will naturally depend on the context", he is clearly using *we* to indicate the community of economists.

        Whilst direct quotations are not used much in Nobel Prize lectures, references to other scholars' studies are frequent and detailed, in order to both support argumentation and recognize other colleagues' achievements. The following examples show how personal experiences position the speaker in the scientific community which is portrayed by way of evaluation, marked by positive adjectives:

(19)   The <u>eminent</u> researcher and 1995 Nobel laureate in economics, Bob Lucas, from whom I've learned a lot, wrote […]. (Kydland 2004)

(20)   Prior to that, scholars such as Yule 1927, Slutsky 1927, 1937 and Frisch 1933 had explored how linear models with shocks and propagation mechanisms provide <u>attractive</u> ways of explaining approximate cyclical behavior in macro time series. […] While both de Finetti 1937 and Savage 1954 gave <u>elegant</u> defenses for the use of subjective probability, in fact they both expressed some skepticism or caution in applications. **(**Hansen 2013)

(21)   The ARCH model was invented while I was on sabbatical at the London School of Economics in 1979. Lunch in the Senior Common

Room with David Hendry, Dennis Sargan, Jim Durbin and many leading econometricians provided a <u>stimulating</u> environment. I was looking for a model that could assess the validity of a conjecture of Milton Friedman 1977 that the unpredictability of inflation was a primary cause of business cycles. (Engle III 2003)

This is perfectly in line with the academic tradition, and it happens because "At the community level, academics write as group members. They adopt discoursal practices that represent an authorised understanding of the world (and how it can be perceived and reported) which acts to reinforce the theoretical convictions of the discipline and its right to validate knowledge" (Hyland 2013: 17).

5.2 Opening and Closing

Although part of the same scientific community, each Lecturer adopts rhetorical devices in line with the topic discussed, but also inherent in his/ her personal attitude and cultural background. Lecturers often refer to their "team", as the individual success has been made possible by the group.[8] At the same time, self-mention and first person pronoun use, indicated by Hyland (2001) as powerful rhetorical strategies to emphasize the writer's contribution, have wide representation in these parts of the lecture. These devices belong to the category of "logos", being based on logical reasoning, facts and figures as well as quotations.

The lectures show different openings. Some start in a polite, traditional style (22), whilst others get straight to the point, (23) and (24).

(22)   I'm delighted to stand before so many people. I'm also very happy when I get to work with models with many people. That is the key to the framework for which Ed Prescott and I were cited by the Nobel committee. (Kydland 2004)

(23)   Wars and other conflicts are among the main sources of human misery. **(**Aumann 2005)

---

[8]   "This paper has benefited from my presentation of an early draft to my colleagues and students at the University of California, Berkeley and from subsequent discussions with Steven Tadelis. […] Never since my visit to Carnegie have I experienced such intellectual excitement" (Williamson 2009).

(24)   The theory of mechanism design can be thought of as the 'engineering' side of economic theory. (Maskin 2007)

As far as conclusions are concerned, it is worth noting that lectures usually end with a conclusive paragraph about the results and further research, more similar to specialized scientific articles than to oral communication. Sometimes (e.g. Ostrom 2009) the final paragraph reports acknowledgments. Only one Lecturer adopts a different strategy, taking leave with a personal view:

(25)   Over my career and before today, I have met twenty-one Nobel Laureates: one in Physics Dennis Gabor, 1970, one in Peace Phillip Noel Baker, 1959, one in Chemistry Harold Urey, 1934, plus 18 Prize winners in Economics. Without exception I have found them to be both very fine scholars and also having excellent personalities, willing to help a younger, inexperienced worker when seeking their advice or meeting them socially. I hope that I am able to live up to their very high standard. (Granger 2003)

In line with what has been described in the previous paragraph, the extensive use of evaluative language adopted in both the opening and closing sections confirms each Lecturer's awareness of belonging to a scientific community in which "excellent personalities" combine hard and soft skills, being generous, open-minded and forward-looking (*fine scholars … willing to help a younger, inexperienced worker*).

5.3 Appealing to the audience

Appealing to the audience means arousing curiosity, which can be achieved, for example, with a surprising statement (26) or a question (27), even a list of questions (28), a technique frequently adopted to keep dialogism alive:

(26)   The most spectacular event of the past half century is one that did not occur [no explosion of nuclear weapons]. (Schelling 2005)

(27)   I will start this lecture with some general thoughts on the determinants of long-term asset prices such as stock prices or home prices: what, ultimately, drives these prices to change as they do from time to time and how can we interpret these changes? (Shiller 2013)

(28)   What are search frictions? What role do they play in the analysis of
       markets? Why are they important? These are the questions I will try
       to answer. **(**Mortensen 2010)

Indeed, in the corpus we find 315 questions, from which we can assume
that questions function as a rhetorical device.[9] As Hyland (2002) points out,
interrogative forms are a distinctive feature of academic writing: they can
imply an evaluation and/or a reason for the questioning. Here are some
examples:

(29)   Bubble stories thus face a legitimate question: which leg of a bubble
       is irrational, the up or the down? Do we see irrational optimism in
       the price increase corrected in the subsequent decline? Or do we see
       irrational pessimism in the price decline, quickly reversed? Or both?
       Or perhaps neither? **(**Tirole 2014)

(30)   What justified the use of the representative agent in the linear
       expenditure system? Was this just an assumption, or an implication
       of such a utility function? And more broadly, *why* were demand
       functions not influenced by the distribution of income? (Deaton 2015)

Why? is present in all the lectures and deserves close attention as it is
something more than a question word in this context: in line with Hyland's
(2002) findings, it can be used to both organize discourse (as in 31) and
support a claim (as in 32).

(31)   *Why* does a surge of effective demand, that is, the flow of money buying
       goods, cause an increase in output and employment, as supposed
       in the great book by Keynes 1936? *Why* not just a jump in prices
       and money wages? […] Another question arose immediately: How
       could there be positive involuntary unemployment in equilibrium
       conditions more precisely, along any equilibrium path? (Phelps 2006)

(32)   *Why* did the trade counterculture flourish despite the apparent
       completeness of conventional trade theory? […] Do you have to be
       in the same city to reap positive externalities from other producers

---

9   The title of a lecture is itself a question: "But who will guard the guardians?" (Hurwicz 2007)
     which makes explicit reference to the question "Sed quis custodiet ipsos custodies" posed by
     Juvenalis in his *Satura* (book II).

in the same industry? If so, *why*? […] Clearly, if the producer opens only one plant, it will be in the larger market. But will it concentrate production? Only if. (Krugman 2008)

5.4 Figurative language

Subsequent to the rhetorical influence of John M. Keynes and his impact on the writing style in the field of economics, much has been said about figurative language, as a fundamental resource in the language of economics (McCloskey 1986; Cameron – Low 1999). Indeed, some metaphors, such as those based on the concepts of "disease" and "contagion" (usually classified as "medical metaphors"), parallel economics to a living organism and express recurrent associations of ideas. An example can be found in Kydland's lecture:

(33)   Another possibility, and I'd like to return to it because it relates to our 1977 paper about which Ed Prescott talked in his lecture, is that the outcome for the 1990s in part is the result of what we may call the time-inconsistency *disease* due to bad policies in Argentina before 1990. (Kydland 2004)

Anthropomorphic metaphors are very frequent, as they conceptualize economics in terms of a body, which may be suffering or recovering from an illness. However, in the corpus other examples can be detected, which originate from different disciplines or situations:

(34)   These *roots* go back to Adam Smith 1759 […]. (Smith 2002, from botany)

(35)   There is therefore little reason for respondents to question their judgment, perhaps even less than in the *bat-and-ball* problem that was mentioned earlier. (Kahneman 2002, from sport)

(36)   Private sector demand for money *balances* can shift, because of financial innovation or fluctuating levels of concern about liquidity. (Sims 2011, from mechanics)

(37)   […] the upstream bottleneck owner is victim of its inability to commit not to *flood* the downstream market. (Tirole 2014, natural catastrophe)

Although not all conceptual metaphors are universal and different communities may use different metaphors to express the same abstract

concepts, in an international context such as the Nobel Prize convention they are based on widely shared knowledge and their meaning is readily available. More than ornamental tropes, metaphors are important instruments of expressiveness and with an interesting pedagogical function "as authentic and contextualized examples for awareness raising and as illustrations of the use of specific linguistic devices" (Ho – Ceng 2016: 46).

Analogy also produces communicative effects, as in Ostrom's simile where the analogic act is based on a memorable example and it also shows a subtle sense of humor, not infrequent in lectures:[10]

(38)   Like the US Cavalry in a good Western, the government stands ready to rush to the rescue whenever the market 'fails', and the economist's job is to advise it on when and how to do so. (Ostrom 2009)

The following excerpt clearly shows how figurative language can help to convey complex abstract concepts (it is also worth noting that "dance" is a hapax in the corpus, an unexpected word in this context.):

(39)   Read any African-American biography: the uncomfortable <u>dance</u> between acceptance and rejection invariably takes center stage. The identity theory of minority poverty has social policy implications that depart from those derived from standard neoclassical theory. (Akerlof 2001)

Another interesting example is the introductory paragraph of Myerson's lecture ("An historical perspective") where the Lecturer parallels past and present, in a narrative style which leads us to the next session:

(40)   Economics began with Xenophon's Oeconomicus (c 360 BC), in which Socrates interviews a model citizen who has two primary concerns. He goes out to his farm in the country to monitor and motivate his workers there. Then he goes back to the city, where his participation in various political institutions is essential for maintaining his rights to own this farm. Such concerns about agents' incentives and political institutions are also central in economic theory today. (Myerson 2007)

---

[10]   Sometimes humor is a fundamental component of the message: "The Roman author, Juvenal, was suggesting that wives cannot be trusted, and keeping them under guard is not a solution because the guards cannot be trusted either." (Hurwicz 2007)

5.5 Narrative strategies

Narrative is a crucial point in lectures, particularly in the Nobel Prize context in which Lecturers are specifically required to present their work and previous studies through professional and also personal experiences. Therefore, self-mention is a highly contextualized feature in this context, as it fulfils a specific expectation. In this respect the analysis of "personal narratives" in Gimenez's terms is significant, precisely in a functional perspective (2010: 204) which indicates not only the formal elements that make up a narrative, but also the ways in which remembered facts are expressed, and the whys for which they are recalled. When Phelps (2006) says "Looking back, it may be that my 1967 paper was the father of what came to be called inflation targeting", he is only in part reaffirming his authority: he is rather accomplishing an assignment within the Nobel Prize institutional framework. Personal experiences and professional commitments frequently merge: "This was an immense effort. More than two years was devoted to developing the final coding manual, E. Ostrom et al. 1989" (Ostrom 2009). Successes and achievements are reported:

(41)   In this article, I will describe the intellectual journey that I have taken the last half century from when I began graduate studies in the late 1950s. The early efforts to understand the polycentric water industry in California were formative for me. In addition to working with Vincent Ostrom and Charles Tiebout as they formulated the concept of polycentric systems for governing metropolitan areas, I studied the efforts of a large group of private and public water producers facing the problem of an overdrafted groundwater basin on the coast and watching saltwater intrusion threaten the possibility of long-term use. Then, in the 1970s, I participated with colleagues in the study of polycentric police industries serving U.S. metropolitan areas to find that the dominant theory underlying massive reform proposals was incorrect." (Ostrom 2009)

The same can be said to interpret Granger's words, who also manifests a form of understatement:

(42)   As an aside, I wrote this lecture whilst visiting the Department of Economics of the University of Canterbury in New Zealand, where Karl Popper also spent some years after World War II.

> Before considering the usefulness of the new methods of analysis, I would like to take a personal detour. This Prize has climaxed a year which started with me being named a Distinguished Fellow of the American Economic Association. Previously in my career, I have been Chair of two economics departments, yet I have received very little formal training in economics. One third of my first year as an undergraduate at the University of Nottingham was in economics, with introductions to micro and in national accounts, and that was it. Whatever other knowledge I have, it has come from living amongst economists for about forty years, by osmosis, attending seminars, having discussions with them, and general reading. My question is: does this say something about me, or something about the field of economics? I think it is true to say that I am not the first Nobel Prize winner in economics to have little formal training in economics. (Granger 2003)

So far, we have seen how personal narratives operate within the lectures, enhancing the speaker's identity and his experience as a member of the scientific community (Hyland 2018). The following excerpts, instead, are examples of diachronic narrative characterized by highly specific knowledge about history (43) and economic thought (44). It puts the findings into a broader historical context and give them more significance.

(43)   But part of that may be because President Johnson's nineteen-year nuclear silence had stretched into a fourth and then a fifth decade, and everyone in responsibility was aware that that unbroken tradition was a treasure we held in common. We have to ask, could that tradition, once broken, have mended itself? Had Truman used nuclear weapons during the Chinese onslaught in Korea, would Nixon have been as impressed in 1970 by the nineteen-year hiatus as Johnson was in 1964? Had Nixon used nuclear weapons, even ever so sparingly, in Viet Nam would the Soviets have eschewed their use in Afghanistan, and Margaret Thatcher in the Falklands? Had Nixon used nuclear weapons in 1969 or 1970, would the Israeli have resisted the temptation against the Egyptian beachheads north of the Suez Canal in 1973? (Schelling 2005)

(44)   For the sake of background, let me take you back a bit in time to review some history of macroeconomic thought. In the late 1960s the New Classical economists saw the same weaknesses in the micro-foundations of macroeconomics that have motivated me. They hated

its lack of rigor. And they sacked it. They then held a celebratory bonfire, with an article entitled 'After Keynesian Macroeconomics'. The new version of macroeconomics that they produced became standard in the 1970s. Following its neoclassical synthesis predecessor, New Classical macroeconomics was based on the competitive, general equilibrium model. (Akerlof 2001)

The knowledge of past political facts and the evolution of economic theories are essential to establishing a common ground between the speaker and the audience, and giving a shared interpretation to the points at issue. The examples above show how connections of occurrences and consequential relationships have a great impact on economics in the course of time. These elements strictly belong to the experts and are usually hard to understand for the out-group.

6. Final remarks

Analysing the language used in Noble Prize lectures is of fundamental importance, as "It is the primary work of language to make all those "other" phenomena [experience, reality, feelings, or knowledge] accountable" (Edwards 2006: 42). The results have shown some examples of lexical indexicality and underlined some discourse markers, be they causal, temporal, additive or hypothetical, frequently adopted to develop the topics. Discourse analysis has shown how argumentation is constructed across a variety of fields through the exposition of models, methods and theories, at a symptomatic, comparative and causal level (as described by van Eemeren and Grootendorst 1992). Comparative and causal features of the language have been illustrated, particularly with reference to "expectation", which is the most prominent domain in this context. Moreover, some rhetorical strategies have been presented, giving evidence that "argumentation aims at securing the adherence of those to whom it is addressed [and] it is, in its entirety, relative to the audience to be influenced" (Perelman – Olbrechts-Tyteca 1969: 19).

The findings show how the Nobel Prize lectures are an instance of institutionalized discourse as conceived by Phillips et al. (2004: 638), who propose that "institutions [are] constructed primarily through the production of texts, rather than directly through actions. […] Institutions are constituted by the structured collections of texts that exist in a particular field and that produce the social categories and norms that shape the understanding and behaviors of actors."

The collection of texts analyzed here represents the institution so much so each of them explains, legitimates, validates and promotes the discipline. Texts reveal the speakers' authorial identity through language devices which contribute to building argumentation, that is to expressing the advancement of a theory, to improving models and to raising consensus supporting reasons, while also introducing evaluation of practical options and comparative assessments. Although within the framework of a rigorous scientific presentation, the episodes related to personal human experiences contribute to establishing a form of phatic communication with the audience (see Note 1).

Technology allows us free access to this type of text, so Nobel Prize lectures can become a fruitful example of globalized knowledge and contribute to the social construction of science. As a matter of fact, the word "knowledge" is widely used in the corpus, either to indicate a danger ("lack of knowledge") or a positive perspective ("a wider knowledge", "a body of knowledge"). It is quite evident from some excerpts reported in the paper that the Lecturers are very aware of their role in developing and transmitting knowledge. It would be hard to say, however, that these lectures can be considered an example of science popularization. Nevertheless, the pedagogical value of this type of text should not be underestimated, both in terms of learning a highly specialized language and in the educational perspective of belonging to a supra-national Community of Practice the objective of which can be found in one of the lectures: "Making this world a better world is the economist's first mission" (Tirole 2014).

REFERENCES

Sources

The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel,
          https://www.nobelprize.org/prizes/economic-sciences, accessed
          December 2020

Special studies

Bakhtin, M.M.
     1986   *Speech Genres and Other Late Essays.* Translated by V.W. McGee. Austin,
          TX: University of Texas Press.

Bawarshi, A.S. – M.J. Reif
    2010   *Genre: An Introduction to History, Theory, Research, and Pedagogy*. West Lafayette, Indiana: Parlor Press.

Bazerman, C.
    2004   "Intertextuality: How texts rely on other texts". In: C. Bazerman – P. Prior (eds.) *What Writing Does and How It Does It. An Introduction to Analyzing Texts and Textual Practices.* Mahwah, NJ: Lawrence Erlbaum, 83-96.

Bhatia, V. K.
    2004   *Worlds of Written Discourse*. London: Continuum.
    2008   "Towards critical genre analysis". In: V.J. Bhatia – J. Flowerdew – R.H. Jones (eds.) *Advances in Discourse Studies.* London: Routledge, 166-177.

Calsamiglia, H. – T.A. van Dijk
    2004   "Popularization discourse and knowledge about the genome", *Discourse & Society* 15 (4), 369-389.

Cameron, L. – G. Low (eds.)
    1999   *Researching and Applying Metaphor.* Cambridge: CUP.

Edwards, D.
    2006   "Discourse, cognition and social practices: The rich surface of language and social interaction", *Discourse Studies* 8 (1), 41-49.

Fairclough, N.
    1992   *Discourse and Social Change.* Oxford: Polity Press.
    2003   *Analysing Discourse: Textual Analysis for Social Research*. London: Routledge.

Flowerdew, J.
    2015   "John Swales's approach to pedagogy in genre analysis: A perspective from 25 years on", *Journal of English for Academic Purposes* 19, 102-112.

Foucault, M.
    1969   *L'Archéologie du Savoir*. Paris: Gallimard.
    2001   *Fearless Speech.* Edited by J. Pearson. Los Angeles: Semiotext(e).

Gimenez, J.C.
    2010   "Narrative analysis in linguistic research". In: L. Litosseliti (ed.) *Research Methods in Linguistics*. London: Continuum, 198-215.

Greaves, C.
    2005   *ConcApp 4 Concordancer*. Edict Virtual Language Centre. http://www.edict.com.hk/PUB/concapp/
    2009   *ConcGram, a phraseological search engine*. CD-ROM ISBN 9789027240279.

Helal, F.
    2013   "Discourse and intercultural academic rhetoric", *Open Journal of Modern Linguistics* 3 (2), 149-156.

Ho, J. – W. Cheng
    2016   "Metaphors in financial analysis report: How are emotions
            expressed?" *English for Specific Purposes* 43, 37-48.

Hyland, K.
    2001   "Humble servants of the discipline? Self-mention in research articles",
            English for Specific Purposes 20, 207-226.
    2002   "What do they mean? Questions in academic writing", *Text* 22 (4),
            529-557.
    2006   "Disciplinary differences: Language variation in academic
            discourses". In: K. Hyland – M. Bondi (eds.) *Academic Discourse across*
            Disciplines. Bern: Peter Lang, 17-45.
    2013   *Disciplinary Discourses: Social Interactions in Writing.* Ann Arbor:
            University of Michigan Press.
    2018   "Narrative, identity and academic storytelling", *ILCEA* [Online] 31,
            http://journals.openedition.org/ilcea/4677

McCloskey, D.N.
    1983   "The rhetoric of economics", *Journal of Economic Literature* 21 (2), 481-517.
    1986   *The Rhetoric of Economics*. Madison: The Board of Regents of
            the University of Wisconsin System.

Perelman, C. – L. Olbrechts-Tyteca
    1969   *The New Rhetoric: A Treatise on Argumentation.* Translated by
            J. Wilkinson – P. Weaver. Notre Dame, Indiana: University of Notre
            Dame Press.

Phillips, N. – T.B. Lawrence – C. Hardy
    2004   "Discourse and institutions", *Academy of Management Review* 29 (4),
            635-652.

Rayson, P.
    2009   *Wmatrix: A Web-Based Corpus Processing Environment*.
            Computing Department, Lancaster University.
            http://ucrel.lancs.ac.uk/wmatrix/

Salvi, R.
    2011   "Reflections on genre and rhetorical choices in the language of
            economics". In: B. Di Sabato – P. Mazzotta (eds.) *Linguistica*
            e didattica delle lingue e dell'inglese contemporaneo. Lecce: Pensa
            Multimedia, 203-212.
    2012   "Transfer of knowledge and academic discourse: Lectures on
            economics". In: G. Diani – C. Preite (eds.) *La trasmissione del sapere*
            nelle diverse comunità accademiche: una prospettiva plurilingue. Roma:
            Officina Edizioni, 75-100.
    2013   "Space and time in the construction of identity in institutional
            discourse". In: R. Salvi – J. Bowker (eds.) *Space, Time and*
            the Construction of Identity. Bern: Peter Lang, 21-45.

Stubbs, M.
    2010   "Three concepts of keywords". In: M. Bondi – M. Scott (eds.) *Keyness in Texts.* Amsterdam: John Benjamins, 21-42.
van Eemeren, F.H.
    2019   "Argumentative style: A complex notion", *Argumentation* 33, 153-171.
van Eemeren, F.H. – R. Grootendorst
    1992   *Argumentation, Communication, and Fallacies. A Pragma-Dialectical Perspective.* Hillsdale, NJ: Lawrence Erlbaum.

APPENDIX I

Year	Laureate	Country	Title	Rationale
1	2	3	4	5
2015	Angus Deaton	UK/USA	Measuring and Understanding Behavior, Welfare, and Poverty	"for his analysis of consumption, poverty, and welfare"
2014	Jean Tirole	France	Market Failures and Public Policy	"for his analysis of market power and regulation"
2013	Eugene Fama	USA	Two Pillars of Asset Pricing	"for their empirical analysis of asset prices"
	Lars Peter Hansen	USA	Uncertainty Outside and Inside Economic Models	
	Robert Shiller	USA	Speculative Asset Prices	
2012	Lloyd Stowell Shapley	USA	Allocation Games – the Deferred Acceptance Algorithm	"for the theory of stable allocations and the practice of market design"
	Alvin E. Roth	USA	The Theory and Practice of Market Design	

1	2	3	4	5
2011	Christopher A. Sims	USA	Statistical Modeling Of Monetary Policy And Its Effects	"for empirical research on cause and effect in the macroeconomy"
2010	Christopher A. Pissarides	Cyprus/ UK	Equilibrium in the labour market with search frictions	"for their analysis of markets with search frictions"
	Dale Mortensen	USA	Markets with search friction and the dmp model	
	Peter Diamond	USA	Unemployment, vacancies, wages	
2009	Oliver Williamson	USA	Transaction Cost Economics: The Natural Progression	"for his analysis of economic governance, especially the boundaries of the firm"
	Elinor Ostrom	USA	Beyond Markets and States: Polycentric Governance of Complex Economic Systems	"for her analysis of economic governance, especially the commons"
2008	Paul Krugman	USA	The increasing returns revolution in trade and geography	"for his analysis of trade patterns and location of economic activity"
2007	Roger Myerson	USA	Perspectives on mechanism design in economic theory	"for having laid the foundations of mechanism design theory"
	Eric Maskin	USA	Mechanism design: how to implement social goals	
	Leonid Hurwicz	Poland/ USA	But who will guard the guardians?	
2006	Edmund S. Phelps	USA	Macroeconomics for a Modern Economy	"for his analysis of intertemporal tradeoffs in macroeconomic policy"

1	2	3	4	5
2005	Thomas C. Schelling	USA	An astonishing sixty years: the legacy of Hiroshima	"for having enhanced our understanding of conflict and cooperation through game-theory analysis"
	Robert J. Aumann	Israel/ USA	War and Peace	
2004	Edward C. Prescott	USA	The transformation of macroeconomic policy and research	"for their contributions to dynamic macroeconomics: the time consistency of economic policy and the driving forces behind business cycles"
	Finn E. Kydland	Norway	Quantitative aggregate theory	
2003	Clive W.J. Granger	UK	Time series analysis, cointegration, and applications	"for methods of analyzing economic time series with common trends (cointegration)"
	Robert F. Engle	USA	Risk and volatility: econometric models and financial practice	"for methods of analyzing economic time series with time-varying volatility (ARCH)"
2002	Daniel Kahneman	Israel/ USA	Maps of bounded rationality: a perspective on intuitive judgment and choice	"for having integrated insights from psychological research into economic science, especially concerning human judgment and decision-making under uncertainty"
	Vernon L. Smith	USA	Constructivist and ecological rationality in economics	"for having established laboratory experiments as a tool in empirical economic analysis, especially in the study of alternative market mechanisms"

1	2	3	4	5
2001	George Akerlof	USA	Behavioral macroeconomics and macroeconomic behavior	"for their analyses of markets with asymmetric information"
	A. Michael Spence	USA	Signaling in retrospect and the informational structure of markets	
	Joseph E. Stiglitz	USA	Information and the change in the paradigm in economics	

Address: RITA SALVI, Dipartimento MEMOTEF – Department of Methods and Models for Economics, Territory and Finance, Faculty of Economics, 'Sapienza' University of Rome, Italy.
ORCID code: http://orcid.org/0000-0003-3810-1483.