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1

Research Perspectives on Bioethically-relevant Discourse

Il discorso di rilevanza bioetica: prospettive di ricerca

Edited by / A cura di
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Genetic Bragging as a Speech Act: From Fictional to Non-fictional Discourse

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ABSTRACT

The fast and consistent progress in DNA research has led us to vent the possibility that bragging about one's own genetic endowment is bound to become a linguistic practice with economic and social entailments. The family resemblance approach (Kleiber 1999) was used to shape what we dubbed here "genetic bragging" in a prototypical perspective to the definition of speech acts. Our assumption is that the "genealogical bragging" in the pre-DNA-testing era is to be considered the closest resembling linguistic practice to draw upon to realize DNA-based bragging. We have collected an *ad hoc* corpus of fictional and non-fictional texts with instances of bragging about alleged inherent differences between human beings. The texts include 18th and 19th century natural science investigations, Hitler's *Mein Kampf*, and science-fiction movie *Gattaca* to identify major strategies of bragging. We have finally supported our hypothesis by looking at two communicative fields. On the one hand, we accounted for the way governments are regulating the use DNA-testing in the insurance industry; on the other hand, we reported a few instances of recent political discourse in which genetic bragging has been used.

Keywords: family resemblances; genetic bragging; insurances; prototypicality; speech act theory.

* The authors worked collaboratively to this paper. However, Sergio Pizziconi is responsible for sections 1, 3, 4.3, and 6; Walter Giordano for sections 4.2 and 5; Laura Di Ferrante for sections 2 and 4.1.

1. INTRODUCTION

Web-based and print newspaper articles are more and more frequently warning their readers on genetic testing-related issues. Among many examples:

- “If You Want Life Insurance, Think Twice before Getting a Genetic Test” (Farr 2016)¹,
- “GOP Bill Could Force Employees to Undergo DNA Tests or Pay Huge Fines” (Burns 2017),
- “The Loopholes in the Law Prohibiting Genetic Discrimination [whose subtitle is “GINA² only applies to health insurance and employment, but a new Republican bill would weaken even those protections”]” (Zhang 2017), and
- “Canadian Insurance Industry Pens Rules on Use of Genetic Test Results” whose lead states:

Canada’s life insurance industry will announce new measures Wednesday that it says will protect consumers from genetic discrimination. But critics warn the changes won’t stop Canadians from being unfairly targeted because of their genetic risk profile. (Weeks 2017)

Regardless of how sound these mediatic alarms are, it cannot be neglected that DNA testing is bound to become part of many transactional processes with economic and financial consequences in the workplace, in the industry of health and life insurances, and, also at the familial and social level, as will be clear in the discussion below.

We wonder if the time come for sentences like, “My genetic test states that I am the healthiest person in the world”, “My genetic test states that I am the best candidate to this position”, “No one has better genes than me”, “Not to toot my own horn, but, hey, look at my genetic test”, to be a common way to brag about our personal qualities? The status of this type of utterance, which is a speech act and a specific type of bragging – or boasting in Searle’s terms (1976) – will be discussed in this paper taking into account sociological and pragmatic aspects. We analyze instances from

¹ In the article the reporter shows the rejection of an application for a life insurance motivating it because of the presence of BRCA1 gene which has been correlated to breast cancer.

² GINA is the acronym of *Genetic Information Nondiscrimination Act* passed in 2008 in the United States. According to many observers, among them the reporter of the article in *The Atlantic*, the act is a precursor of wider issues to come with the spread of genetic testing.

contexts as diverse as 18th and 19th century human sciences, contemporary science fiction, insurance policies, and political discourse. Bragging presupposes the belief of the bragger to be superior, for whatever reason, to others, who might also include his/her interlocutor. Starting from this assumption, we decided to build a corpus of instances of bragging.

Our corpus comprises texts from different genres, fictional and non-fictional. The texts were chosen for being based on the belief that there are inherent differences between individuals. Drawing from our *ad hoc* corpus we demonstrate that from the genealogical bragging in the pre-DNA-testing era, our linguistic communities are likely to develop linguistic strategies to perform a bragging based on genetic data. Starting from the framing of “bragging/showing off” speech act (among others Searle 1976; Alfano and Robinson 2014), we will discuss how genetic characteristics can communicatively work as a warrant to support an individual’s claim of good standing in some contractual or, more generally, transactional interactions.

In the ensuing sections, after a brief overview of *Speech Act Theory* and its criticism, Semantics of Prototypes will be introduced to shed a different light on the procedure of definition and construction of bragging as a speech act. In the methodological section, we will provide a rationale for the selection of the *ad hoc* corpus of texts and the way it was processed to extract the linguistic data that were used to build the two-fold paradigm of the genealogical bragging and the genetic bragging. The section about insurance contracts and political discourse is meant to be an application of the paradigm as defined through historical and fictional texts of the corpus.

2. THEORETICAL BACKGROUND: SPEECH ACT THEORY AND PROTOTYPICALITY

Speech Act Theory as unfolded by Austin (1962) and Searle (1969), regardless of several criticisms, is still considered a powerful underlying framework to analyze human verbal interaction. In each utterance, the theory distinguishes (a) the locutionary act, i.e. the articulation of the utterance itself, for instance, “I promise I will look for that file in my archive”, (b) the illocutionary force, i.e. the meaning intended by the utterer, in the example a commissive act explicitly marked by the performative verb “I promise”, and (c) the perlocutionary effect, i.e. the expected changes in the hearer’s reality: in the example, the hearer is certain that what is needed from the archive will be searched by the utterer.

For the purposes of the present paper, it is particularly relevant one of the criticisms that was moved to the Speech Act Theory, namely the identification of the illocutionary force (Levinson 1983, 243-282; Verschueren 1999, 22-25, 47-48) in those cases in which (a) no performative verb explicitly expresses the type of illocutionary act and, (b) *a fortiori* when the act is indirect, for example when a request is indirectly placed by using a “representative” utterance (Searle 1976, 10) – such as “It’s getting cold in here!” instead of the directive “Turn on the heating system”. These two cases are particularly problematic with bragging as this specific speech act has no performative verb and its linguistic realization is often indirect.

The speech act of bragging is problematic because of the mentioned reasons. First, it usually lacks a performative verb. When bragging we do not usually start our locution with “I brag that...”; although we might hear sentences such as “I don’t mean to brag...” or “Not to toot my own horn”, that exploit the rhetorical figure of preterition. Second, it is reasonable to think that different cultures allow for different degrees of indirectness in bragging according to the accepted level of assertiveness when representing the self, such as in job application letters, in each culture. In such cases, and especially in Anglo-Saxon contexts, people need to brand themselves – as it is stressed on any website containing suggestions for job seekers. It turns out that in such contexts, people need to portray the best possible representation of themselves and hence, they are to covertly and indirectly brag.

As described in the methodological framework below, we maintain that it is possible to overcome some of the critical issues related to indirectness and to lack of performative verb by borrowing the procedure of the family resemblances as defined in the semantics of prototypes and applying it to the speech act of bragging. Prototypicality has already been identified as a possible solution to the problems described in the previous section, but more often than not, the problem was simply moved almost unaltered to another level of the analysis – for instance, Hudson, Detmer, and Brown (1995) through the collection of statistically significant amount of samples and Bloomquist (2010) with the identification of the maximally differentiating features of the objects that are considered central to a given category.

The literature on the semantics of prototypes (Rosch 1973) is so extensive that it is beyond the limits of this paper to attempt at meaningful review³. Suffice it to say that this paradigm, started with the studies of the

³ A reasonable, scientific treatment of the semantics of prototypes remains Kleiber 1999 in which the novelty of the approach is applauded but at the same time rigorously

psychologist Eleanor Rosch (1973), who proposed a conceptual alternative to the quite rigid Aristotelian notion of category as a tool to experimenting and getting to know reality. The idea of necessary and sufficient conditions, which is supposed to define each category, generates classes of objects maximally homogeneous and differentiated from others, which clearly fails to encompass the complexity and ambiguity of social reality. One very productive perspective has led to the possibility of selecting members that belong with the same category by applying more in depth the Wittgensteinian family resemblances (Kleiber 1999, 156-165).

In this perspective there is no quest for a minimal set of properties that defines the category. Moreover, the fact that a set of properties can overlap with some other sets but not with all of them is extremely helpful to categorize linguistic objects that would otherwise appear as completely unrelated. The hierarchical internal organization is re-asserted by the idea that there are instances of the category that would be consistently recognized as belonging to that “family”, whereas other might confuse with different speech acts.

Stemming from this approach, our proposal is to look for a good/central representative of a given speech act – here, bragging/showing off – that is not necessarily the form most frequently used in a speech community, but one that is invariably recognized as effecting that specific speech act. Let’s assume that “I am the (best) [...] in the world” be the good representative of the category invariably recognized as an act of bragging. Then, this form of what we dub genealogical bragging will be used as a sample against which we can compare other formulations and foresee new ones, like genetic bragging instances.

3. METHODOLOGICAL FRAMEWORK

3.1. *Building a paradigm for the genetic bragging*

The first methodological assumption of this study is that genetic bragging as a speech act already exists and is likely to become ever so frequent and with wider implications in transactional and relational processes.

criticized. A pedagogical approach to the notion of prototype and prototypicality can be found in Radden and Dirven 2007.

The second assumption is that, as etymology of words and the history of idioms demonstrate, the linguistic realizations of this novel speech act will build on the forms of the bragging based on pre-DNA knowledge. We, hence, looked for family resemblances between the forms of genealogical bragging from an *ad hoc* corpus and connected them with a short list of prototypical sentences that have been assessed by a panel of 315 informants as instances of bragging. The informants mainly consisted of high school and university students and teachers. The sentences, “*Nessuno ha geni migliori dei miei* [Nobody has better genes than mine]” and “*I miei geni sono migliori dei tuoi* [My genes are better than yours]” were defined as instances of bragging by 97.5% and 94.6% of the panel respectively. Less prototypical than the examples above, two other sentences, “*Per i geni che ho la mia candidatura è la migliore per questo lavoro* [Because of the genes I have I am the best candidate for this job]” and “*Ho ottimi geni: sono la persona più sana del mondo* [I have excellent genes: I’m the healthiest person in the world]” were considered bragging by 78.1% and 77.6% of the panel respectively.

We have extended this short paradigm, namely, we have identified a set of possible variations on the basis of a set of pragmlinguistic variables: interlocutors-related (such as speaker’s and hearer’s faces, relative status, and third parties), context-related (such as setting and community’s priorities), textual system-related (such as expressive goals, systemic potentialities, and co-text), and then goals and means of communication⁴. The new items were identified by collecting examples of *genealogical bragging* from our *ad hoc* corpus, i.e. reference to individual’s or community’s innate features in the era preceding our current knowledge of DNA and its testing procedures. As many morbid examples show, those features must have a positive profile when referring to the bragger’s in-groups and a negative one, typically in antonymic terms, when describing the out-groups.

It is worthy to remember that the concept of “race” and *a fortiori* the one of “Aryan race” widely used in many texts in our corpus have been radically neglected by the development of DNA studies that demonstrated their scientific inconsistency.

⁴ The list of these variables is not meant to be exhaustive, but they are a rather extensive set taken from the functional equation that Pizziconi (2012, 92-96) has defined in educational settings to determine variants of the prototypical instance of a linguistic act.

3.2. *The corpus*

We built an *ad hoc* corpus of texts from different genres with the aim of identifying linguistic strategies used to brag about some kind of ontological quality of a certain human being or a group. This choice was based on two elements. First, genetic bragging has not been codified yet, and it is probably still too early to find authentic instances of genetic bragging in interaction or writing. Second, in order to make previsions (or abductions à la Peirce) about the linguistic forms of bragging, we need to observe a type of bragging that is as close as possible to the genetic one. The primary element for closeness (as in family resemblances) was identified in the ontological nature of genes. Unfortunately, the past has presented us with many instances of people who believed to be ontologically superior and fictional works also offer a vast amount of similar examples.

We therefore selected texts that announced themselves as containers rich of lexical/semantic units that refer to genealogical bragging, in the older examples, and to genetic one, in the newer ones. In the next section, excerpt have been reported and commented on.

4. GENETIC BRAGGING: HISTORY, SCIENCE, AND SCIENCE FICTION

4.1. *Human races according to 18th and 19th century scholars*

From the 18th century, scientists have tried to find links between genetics in the pre-DNA framework and types of human beings, distinguishing between varieties and/or races on the basis of the shape of the skull or the ethnocentrically perceived beauty or social and historical success. Some steps of the effort put into defining and qualifying diversity, which more recent genetic research demonstrated to be completely flawed, will be discussed below.

At the end of the 18th century, French naturalist Georges-Louis Leclerc, Comte de Buffon, wrote a 36-volume *Histoire naturelle, générale et particulière*, which included a theory on the degeneration of species. Degeneration was interpreted as the cause of the variation of the species:

[...] none of these animals are natives of America, but have been transported from Europe; that, like the sheep, they have *degenerated* and become smaller in this new country; that the wool of the sheep is changed into hair as coarse

as that of goat; that the wild goat seems to be a bastard race". (Buffon 1791, 374; our emphasis)

The way in which "degenerated" is conceived in this passage and in many others, implies a value judgment of the original shape of any species. The concept is often brought to absolute terms when applied to the natural history of human beings, in which the primordial group is *per se* valuable. In 1795, the German anatomist and naturalist Johann Friedrich Blumenbach hypothesized that the first human type had been the Caucasian variety, which included light-skinned people, not only from Europe, but also from northern Africa and western Asia:

I have taken the name of this variety from Mount Caucasus, both because its neighborhood, and especially its southern slope, produces *the most beautiful race of men*, I mean the Georgian; and because... *in that region, if anywhere, it seems we ought with the greatest probability to place the autochthones of mankind*. (Blumenbach 1795, quoted in Gould 1994; our emphasis)

According to Blumenbach, "yellow", "red", and "black" varieties were the result of a degeneration due to factors such as climate and food changes, epidemics, and multiple hybridization of individual quite similar to one another. Gould (1994) points out that "Blumenbach referred to these changes as 'degenerations' – not intending the modern sense of deterioration, but the literal meaning of departure from an initial form of humanity at the creation". Blumenbach's observations on the differences between the varieties, and his evaluations on the Caucasian one as the most beautiful variety, led to investigations on racial differences.

Blumenbach observed 82 human skulls and classified them on the basis of an aesthetic criterion derived from the Mediterranean artistic tradition and he ended up deducing that the Caucasian skull had the most beautiful and symmetrical shape (for an extensive analysis of this research, see Katzenberg and Saunders 2011).

Although such criterion was clearly based on a Western-ethnocentric perspective, as well as the choice of the artistic tradition, a similar criterion was used in 1813 by James Cowles Prichard in his work on *Researches into the Physical History of Man* for his theory on racial varieties. Prichard maintained that the evolution had developed from black people to white people, thanks to civilization progress that led people to an unconscious marriage selection based on the criterion of beauty. If many judgments are passed on the basis of Western aesthetics, in a system in which *tout se tient*, Western civilization is used to license other judgments on the differences in human diversity.

In the United States, in mid-1800s, the polygenism theory started wide-spreading, and the work of scientists such as Samuel George Morton, Charles Pickering and, in particular, Agassiz in his *Lecture in Charleston* started circulating the idea that there were multiple human races (Menand 2002) and that there was a hierarchy between them, at the bottom of which, there were black people: “the brain of the Negro is that of the imperfect brain of a seven month’s infant in the womb of a White” (Agassiz, cited in Menand 2002, 112).

Polygenism theory was not compatible with degenerative theory as polygenists maintained that there had been no changes in the human types over the centuries. In particular, Samuel George Morton worked to devise a methodology for skulls’ measurement: he would identify the average brain measure by measuring the volume of the skull. But more interestingly in *An Essay on the Varieties of the Human Species* that is prefixed to his *American Crania*, Morton in several passages shows how in a text that announces itself as scientifically objective is unable to avoid some indirect bragging about specific races or families. As shown in this passage about the Caucasian race:

The Caucasian Race is characterized by a naturally fair skin, susceptible of every tint; hair fine, long and curling, and of various colors. The skull is large and oval, and its anterior portion full and elevated. The face is small in proportion to the head, of an oval form, with well-proportioned features. [...] This race is distinguished for the facility with which *it attains the highest intellectual endowments*. (Morton 1839, 5; our emphasis)

The attained intellectual endowments is the highest in the rather ethnocentric scope of the writer. In the same scope also aesthetic features are used to indirectly brag about one specific human variety. Quoting from a not further identified *Cook’s Last Voyage*, Morton licenses the Western aesthetic model as a reference to describe some ethnic groups in the Polynesian family:

But on the other hand we met with hundreds of *truly European faces, and many genuine Roman noses*, amongst them. Their eyes and teeth are good; but the last neither so remarkably white, nor so well set, as is often found amongst Indian nations. (Morton 1839, 60; our emphasis)

And again on the same page:

The people of the Society Islands, together with those of the groups called the Georgian, Austral, and Harvey’s Islands, are generally less muscular than the Sandwich islanders, whom, in other respects, they closely resemble. They are

well formed, and often beautifully proportioned, and possess an uncommon share both of activity and gracefulness. Their countenance is open, and the facial angle *is often as good as in the European*. (Morton 1839, 60; our emphasis)

Clearly, in this context, Charles Darwin's theories on the *Origin of Species by Means of Natural Selection* (1859) and *The Descent of Man, and Selection in Relation to Sex* (1871) completely revolutionized the scientific thought on the theory of races at that time. Darwin's theory makes it apparent that polygenism makes no sense, as Darwin shows how the differences between species are the result of a natural selection process.

As far as racial differences are concerned, many scientists, like Paul Broca in Paris and Lombroso in Italy, continue to perform skulls' measurements. In particular Broca (1861) and colleagues were convinced that the differences between the shapes of the skulls were linked to the position of certain cognitive functions in specific areas of the brain, which led to the theorization of race differentiation on the basis of cranium appearance.

4.2. *Mein Kampf and the Aryan race*

The examples concerning the Aryan race are taken from Adolf Hitler's *Mein Kampf* in the English translation, published by Reynal & Hitchcock in New York (Hitler 1941) after the two volumes of the original work were printed in 1925 and 1927 by Verlag Frz. Eher Nachf. The following formulations of the speech act are dependent on the written means of communication and its propagandistic goals. The speaker's face is assumed to be valued and valuable on the basis of the assumption of writer's belonging to the Aryan race. As long as readers belong to the Aryan race, hearers' face as well is protected and valued⁵. No willingness to try to hedge the negative attitude towards non-pure Aryans is ever found in the passages below. Finally, because of the historical setting in which a biochemical reading of DNA was not possible, bragging about the genetic-racial endowment

⁵ As stated in section 3.1 above speaker's and hearer's face are one of the many variables according to which the prototypical speech act can be shaped to generate new possible forms of bragging. Following Brown and Levinson's (1987) framework of politeness, in this case it is the positive face of both speaker/writer and hearer/reader at work here. Positive face concerns individuals' belonging to the group, their willingness to be accepted and liked by in-groups. Conversely, the negative face derives from the interlocutors' quest for freedom and independence. Considering the historical context of Hitler's book, the solidarity between in-groups connected to the positive face is aimed at reinforcing German people's self-determination in the international community, which is the negative face.

privileges two types of co-texts: divine framing and technical, political, economic, historical framing.

In the following passage “race commissions” and “certificates” are mentioned as part of the institutional procedure to attest “racial purity”:

Specially formed race commissions have to issue a certificate of settlement to the individual; but this is dependent on a certain racial purity, to be established. Thus frontier colonies can gradually be formed whose inhabitants are exclusively bearers of highest racial purity and with this of highest racial efficiency. They are a precious national treasure of the entire people; their growth must fill every national member with pride and joyful confidence, as in them there lies the germ for the ultimate great future development of their own people, even of mankind. (Hitler 1941, 609-610)

Motivated by its expressive strength, both racial purity and efficiency are “highest” exploiting the superlative as the most prototypical way to state the best quality possible of the prospective colonizers. This is the only case in which in the English translation the word “efficiency” is qualified by “racial”. Among many examples of physical, governmental, military, technical, productive, individual’s, leader’s efficiency, the effectiveness of this noun group seems to be connected to a possible technical interpretation of the concept of efficiency. In any science, efficiency is typically the ratio between output and input. The ideal condition would be to obtain an efficiency equal to one or greater, to signal that the input has been transformed by the system into an at least equivalent output. Here instead, the Aryan race is both input and output to have the value one as the efficiency of this demographic engineering system. The way this is possible is explained below:

Historical experience offers countless proofs of this. It shows with terrible clarity that with any *mixing of the blood of the Aryan with lower races* the result was the end of the culture-bearer. [...] The result of any crossing, in brief, is always the following:

- (a) *Lowering of the standard* of the higher race,
- (b) *Physical and mental regression*, and, with it, the beginning of a slowly but steadily progressive lingering *illness*.

To bring about such a development means *nothing less than sinning against the will of the Eternal Creator*. (Hitler 1941, 392; our emphasis)

Here the concept of national quality established on the basis of genealogy is presented as the causal effect of the “physical and mental” quality of individuals. The reference to the blood-mingling as “sinning against the will of the Eternal Creator” intertwines the racial/genetic reason with

the religious sentiment. The cause-effect link is somehow reversed in the following passage, in which the purity and highness of the race must be preserved from “blood poisoning”, as stated in other passages of the book:

The prevention of the procreative faculty and possibility on the part of physically degenerated and mentally sick people, for only six hundred years, would not only free mankind of immeasurable misfortune, but would also contribute to a restoration that appears hardly believable today. If thus the conscious methodical *promotion of the fertility of the most healthy bearers of the nationality is realized*, the result will be a race which, at least at first, will have eliminated the germs of our present physical, and with it of the spiritual, decline. (Hitler 1941, 609; our emphasis)

Thus far the priorities of a specific community have been pointed out and leveraged to legitimate claims of race superiority. In this last excerpt, bragging is brought to a higher level:

What we see before us of human culture today, the results of art, science, and techniques, is almost exclusively the creative product of the Aryan. But just this fact admits of the *not unfounded conclusion that he alone was the founder of higher humanity as a whole, thus the prototype of what we understand by the word ‘man’*. (Hitler 1941, 397-398; our emphasis)

The litotes, “not unfounded conclusion”, is an indirect formulation of the bragging that in this case moves from a relative level (“higher humanity”) to an absolute one (“*what we understand by the word ‘man’*”).

4.3. *Gattaca: blood and our curriculum vitae*

With the movie *Gattaca*, the perspective changes from the collective claim of superiority and the wider target of national prosperity to a more individualistic design. The movie by Andrew Niccol, produced in 1997, tells the story of Vincent Freeman who was conceived and born without exploiting any genetic engineering, contrarily to what would happen to his younger brother Anton. To realize his dream of space travel, Vincent assumes the identity of a former athlete genetically engineered, Jerome Morrow, whose lower body is paralyzed after an accident. To enter the space program, Vincent alias Jerome succeeds in passing all genetic checks using blood samples from Jerome and other devices to hide his own identity. In one of the many flashbacks on Vincent’s life, young boy Anton brags about his potential to become an astronaut in the face of his brother’s dream:

ANTON: How many astronauts are there, anyway?
(Vincent ignores him and continues to reel out the string)
ANTON: *I bet* I could be one.

Betting and the computation of probability is the basis of the *alea* implicit in any insurance contract. Higher chances of a healthier and more successful life are pivotal in bragging about one's own genetic endowment. Looking at his future, Jerome dreams of the moment of his acclamation to success:

JEROME (Voice Over): The most unremarkable of events. Jerome Morrow, Navigator First class, is only days away from a one-year manned mission to 951 Gaspra in the Outer Asteroid Belt. [...], *selection for Jerome was virtually guaranteed at birth. He is blessed with all the physical and intellectual gifts required for such an arduous undertaking, a genetic quotient second to none.* (*Gattaca*; our emphasis)

Here the blessing confuses with engineering guarantee. Somehow, the scheme used by Hitler with the divine third party and the scientific context marked by the technical "genetic quotient" warrants the quality of the prospective astronaut. The geneticist's explanation to Vincent's parents of the genetic screening process clarifies the role of technical discourse as a co-text exploited to brag about one's own quality:

GENETICIST: Your extracted eggs... Maria, have been fertilized with... Antonio's sperm and we have performed an analysis of the *resulting pre-embryos*. After screening we're left with two healthy boys and two healthy girls. Naturally, no critical *pre-dispositions to any of the major inheritable diseases*. All that remains is to select the most compatible candidate. [...] You've already specified blue eyes, dark hair and fair skin. I have taken the liberty of *eradicating any potentially prejudicial conditions* – premature baldness, myopia, alcoholism and addictive *susceptibility, propensity* for violence and obesity.

From a different point of view, this submissive confession by Vincent about his genetic weaknesses lends itself to show the speech act opposite to bragging and explains why genetic endowment enters legal issues as we will discuss in the next section:

JEROME: My genetic scarlet letter continued to follow me from school to school. When you're told you're prone to learning disabilities, it's sometimes easier not to disappoint anybody.

Legal and economic implications of the possible genetic discrimination, here called "genoism" on the morphological pattern of "racism", are clarified by Jerome himself:

JEROME: My father was right. It didn't matter how much I lied on my résumé, my real C.V. was in my cells. Why should anybody invest all that money to train me, when there are a thousand other applicants with a far cleaner profile? Of course, it's illegal to discriminate – “genoism” it's called – but no one takes the laws seriously.

This certified pre-judice – in the etymological sense of a judgment expressed before things happen – specifies how the genetic characteristics may work and be perceived as ontological elements susceptible of social evaluation with social and individual consequences.

The last excerpt is meant to reinforce the idea of the alea, namely the probabilistic nature of what is stated by genetic testing, unless, as we will see talking about insurance contracts, the symptoms of genetic diseases have already shown:

JEROME (Voice Over): For the genetically superior, success is easier to attain but is by no means guaranteed. *After all, there is no gene for fate.*

5. THE INSURANCE CONTRACT AND POLITICAL DISCOURSE

Moving onto more recent and concrete fields of application of genetical bragging, in this section we will consider insurance contracts and political discourse. In the latter case, we present instances of genetical bragging that show how propaganda has already adapted the genealogical bragging strategies of the pre-DNA testing era. Insurance contracts will not provide direct examples of genetical bragging. However, recent developments in the legal status of DNA testing in the insurance industry make them relevant for two reasons: (a) the opposition genealogical vs. genetic, as defined above, describes the switch in the method of collecting prospective insurance subscriber's health conditions from personal and familial medical anamnesis to DNA testing that insurance companies are trying to implement; (b) the discussion about the use of DNA testing when contracting life and health policies indirectly shapes the semantic areas of the genetic bragging.

European countries have set a regulation for genetic non discrimination as regards job and insurance contracts, while in the USA, the GINA (Genetic Information Nondiscrimination Act) act was signed in 2008, to prevent insurance companies and job market from discriminating people on genetic basis (Van Hoyweghen and Horstman 2008). Yet, through a loophole in the GINA, a bill in the USA, the Preserving Employee Well-

ness Programs Act (PEWPA), passed by a House committee in March 2017, could allow employers to access employees' genetic and other health information, compelling them to provide their DNA samples. On the one hand, employees refusing to comply to the regulation, which designs personalized wellness schemes, may face very high care related costs; on the other hand, filing in the program, would open their life to invasive privacy intrusion and, ultimately, discrimination (Sun 2017)⁶.

Another field of application of genetic test results is the insurance industry. The possible risk is that insurance companies may use genetic tests and the resulting data to manage life insurance contracts underwriting, as well as adjusting premiums to the applicant's genetic profile – even the opposite way, if the applicant's profile is healthy he/she might ask for a reduced premium.

Provided that companies require good health conditions for life insurance contracts and standard premiums, the genetic tests may uncover health data that the applicant could not be aware of before (MDHHS). So far, the regulation on the matter is oriented to ban any genetic data requirement from the insurance company (Armbruster and Obal 2013). Nonetheless, insurance companies are eager to get all the possible information to draw a contract (Pendell 2017). Before DNA testing became a feasible practice, and still today, some “genetic” investigation was carried out through questions on the medical history of prospective insurance subscribers. But the time of worrying whether genetics can affect people's future lives has come.

The Genetic Alliance UK gathers almost 200 British patient organizations and “its aim is to improve the lives of people affected by genetic conditions” (Genetic Alliance 2013). In the guidelines composed for their members, the alliance clarifies in what circumstances subscribers of an insurance policies are supposed to provide genetic information. As the booklet explains, genetic tests are distinguished between predictive and diagnostic ones. Diagnostic tests are typically carried out when a genetic condition runs in subscriber's family and they are designed to check for that genetic condition, whether the subscriber shows symptoms or not. Conversely, predictive tests are aimed at finding any type of genetic condition that might affect subscriber's health. This type of test is the one that insurance companies may not ask their prospective subscribers for. However, insurance policy buyers might be interested in disclosing the results

⁶ At the time of writing this paper, the website of the US Congress reports the bill as “introduced” and not have passed House and Senate yet.

of predictive test if they turned out to be negative for major genetic conditions because “many insurance companies [...] may remove any loadings or special terms applied to your premium based on your family medical history” (Genetic Alliance 2013, 7).

Some information can lead the perspective that sooner or later insurance companies will require genetic testing for drawing contracts. In a Canadian study on the impact of the disclosure of genetic tests to underwriters, Howard (2014, 13) concludes that premiums of term life insurance will increase substantially. Another study arrives at similar conclusions, even if the increase has a lesser extent, due to the limited range of genes tested and also considering the incidence of conditions, from moderate to severe (MacDonald and Yu 2011, 17).

Canada is the only country without a regulation on the protection of people from genetic discrimination. Insurance companies, there, are fighting to get the necessary genetic data to adjust the possible asymmetry in the information (Pearson 2016).

In the USA, too, insurers are inclined to see a future market where the genetic test will be required to offer lower life insurance premiums. Most of them would be ready now, “We would do this, but we don’t want to be the first” (Peikoff 2014).

A futuristic view can be inferred from this argumentation on whether or not life insurance companies will be entitled to break in people’s private lives. If we assume that the scenario might be possible, the fiction from *Gattaca*, which inspired the hypothesis of a genetic bragging, becomes reality.

Reallocating our hypothesis in a linguistic framework, that is establishing whether or not genetic bragging will become a common speech act, we assume evidence from other reality facts. An example is given by politicians; some keep boasting integrity (instead of ability) to be elected in political contexts. Not surprisingly, Donald Trump, during his presidential election campaign, bragged about his wealth (Rushe 2015), setting up a very personal “bragging communicative style”.

Trump is also reported to believe in the racehorse theory (Mortimer 2016). The words from the official President’s biographer reveal the Trump family credo: “They believe that there are superior people and that if you put together the genes of a superior woman and a superior man, you get a superior offspring”. Even though the biographer is not quoting Trump directly here, he shows that beneath some utterances there’s the underlying use of superlative/comparative without second term of comparison to genetically mark the difference.

In her article and an embedded audiovisual medley of several excerpts for television interviews, Mortimer (2016) provides us with a taste of Trump's eugenics collecting a series of statements of his:

- (1) Some people cannot genetically handle pressure.
- (2) You're born a fighter and I've seen a lot of people... they wanna fight but they can't.
- (3) I have great genes and all that stuff which, I'm a believer in.
- (4) You have to have the right... the right genes.
- (5) Well I think I was born with the drive for success because I have a certain gene.
- (6) I'm a gene believer... Hey, when you connect two race horses, you usually end up with a fast horse.
- (7) I have a certain gene I'm... I'm a gene believer.
- (8) Do we believe in the gene thing? I mean I do.
- (9) I always said winning is somewhat maybe innate... maybe it's just something you have. You know, you have the winning gene. (Mortimer 2016)

These statements recall the strategies of the genealogical bragging described in section 4. Examples (1) and (2) show how genetics can be used to despise others. "Great" and "right" in examples (3) and (4) work praising modifiers of genetic endowment. The belief in innate genetic qualities connected with the success is stated in examples (5) and (6). In the latter, the need of effective mating is also indirectly suggested. In the last three examples, genes are constructed as something to believe in as if they had the power to certify the person's qualities and his/her chances of success, regardless of any other contextual variable.

Bragging is not a brand-new concept in communication. Over time, bragging as a speech act has become common; for example, bragging about wealth to belong to some social groups, is a common feature deriving from the modern societal cliches focused on "form over substance" (Alfano and Robinson 2014, 267). The identification of the speech act comes after the naturalization of values, *modus vivendi* or regulations in a society (Alfano and Robinson 2014).

We believe that the path to establish "bragging genetic excellence" as a speech act goes through the steps that insurance companies, employers and policymakers will take. If the society becomes dependent on the nature of people's genes, then, any form of communication will accept bragging as a potential distinction marker.

6. CONCLUSIONS

The mechanisms that help us categorize reality, on the one hand are the necessary tools to deal with reality itself, with the social system we live in, and with other people; on the other hand, these are the very same mechanisms that have produced greatly deviant phenomena. In other words, the categorization of reality while helping us to be social beings, also led us to classify society and other groups of people in a way that produced aberrant processes like discrimination, apartheid, anti-Semitism and those derived by the concepts of *races*, and hierarchies between them.

The prototypical approach to the definition of the speech act of bragging allowed us to show how a different system of categorization frames the classificatory endeavor to recognize family resemblances among many different instances of the object of study that would not typically enter the category built in the Aristotelian way. The work of building connections between so many diverse instances has permitted to show presuppositions and implications about the philosophical conception of human nature and genetic shaping. With examples and the excerpts from 18th and 19th century scientists, we have demonstrated how genetic bragging as a speech act has been realized in a historical framework. With the instances from the fictional text, *Gattaca*, we have shown the *mise en scène* of genetic features in a technological environment that goes beyond current possibilities. The communicative use of genetic information has been dealt with in the current concrete case of life and health insurances and political discourse.

Flaws and devastating errors in scientific methodology, historical evidence, filmic moral, and at least debatable insurance policies have not refrained good-gene-equipped people to brag about who they are, compared to whom they are not. Natural selection is supposed to determine who lives and who disappears, what genes are good enough to survive the next centuries on the planet. However, in the last decades we have started reconsidering the effects of natural selection and the stronger cultural claim of an inclusive society has brought to the, at least politically correct conviction that regardless of any genetically determinism, any human being is entitled to live a full-blown life. This principle should override the reasons that are connected to the economic assessment of insurance companies and ensure equivalent benefits for everybody.

When underwriting an insurance policy, subscribers cannot be forbidden to brag about their genetic features. But those who choose not to, should be regarded as people convinced that, as Jerome puts it, “there is no gene for fate” respecting the alea on which any insurance contract is based by law.

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