

ON THE PROSODIC CUES OF VERBAL IRONY IN A SITUATION COMEDY

*Glenda Gurrado*¹

1. INTRODUCTION

Irony is traditionally considered a way of saying something while meaning something else: an inversion between the literal meaning and the implied one. However, this perspective has evolved and shifted over the years: some studies, following a pragmatic perspective, consider irony an attitude strongly connected to the need to safeguard the social face (among others, Sperber, Wilson, 1981; Clark, Gerrig, 1984; Anolli *et al.*, 2001). Irony is a communication tool used to express a thought in a non-direct way, in order to protect social relations. This is one of the reasons why the speaker chooses irony over sincerity in some contexts. Sarcasm is the most common form of irony: it is a way of attacking the listener using a polite sentence to express a not-so-polite content. There are different indices the speaker can use to highlight the disconnect between a message and its real meaning. These indices can be morphological, kinetical, contextual, or intonational markers (Attardo, 2000b). With reference to the latter, some studies identify some specific prosodic cues that characterize verbal irony, such as heightened pitch variation but also monotonic or lowered pitch, reduced speech rate, nasal articulation, and changes in voice quality (Fonagy, 1971; Cutler, 1974; Muecke, 1969; Shaffer, 1982; Haiman, 1998; Rockwell, 2000). Two main tendencies have been detected: emphatic irony, characterized by the rising of frequency and intensity parameters, and flat irony, characterized by a monotone intonational profile and a compression of the pitch range. However, both tendencies usually present a slowing down of the speech rate. Nevertheless, more recent experimental studies have identified these and other prosodic traits, reaching a common conclusion: it is not possible to define a prototypical ironic tone of voice because even though some languages share the same prosodic indices, each language seems to make a particular use of them (Leykum, 2019). With reference to Italian, very few studies have verified the prosody of irony so far (Anolli *et al.*, 2002; Gurrado, 2020, 2022, 2023). Existing research shows that sarcasm is characterized by high F0 values, a wider pitch range, a higher intensity, and a slower speech rate² than neutral speech. However, it also shows a certain variability: in fact, some utterances presented a typical flat irony.

On the basis of these issues, our pilot study aims to analyze the prosodic traits that characterize verbal irony in the Italian language with a particular focus on acted speech. We based our research on the first season of an Italian situation comedy called “Camera Café”, specifically focusing on the two main characters of the show. We had two goals: firstly, to verify whether the actors’ ironic attitude influences the prosody of their acted

¹ Università degli Studi di Bari.

² The pitch range can be defined as the distance between the lowest and the highest pitch values of the speaker; this parameter is strictly connected to the communication of expressiveness and it is calculated in Hz or Semitones (ST). Intensity is a prosodic parameter related to the amplitude of the sound waves and it is calculated in decibel (dB). Speech Rate is the ratio between the number of syllables and the duration of the enunciation (syll/s).

speech, and secondly, whether the two actors use different strategies to convey verbal irony.

2. IRONY

Attempting to define irony has a long and controversial history. Irony is traditionally considered a way to express something while meaning something else. According to the standard rhetorical perspective, irony is a figure of speech (antiphrasis) that consists in expressing a message that conveys the opposite meaning of the one intended by the speaker (among others, Booth, 1974). In other words, there is a contrast between what is said and what is meant. This traditional rhetoric perspective has been revised by Grice as an exploitation of the first maxim of quality. His interpretation however is very limited and fails to explain why speakers should prefer irony over sincerity in expressing their thoughts. According to Sperber and Wilson (1981), irony can be considered a process of mentioning a thought or a common belief that the speaker wants to criticize. Clark and Gerrig (1984) argue that through irony the speaker pretends to perform a speech act, and the listener has to detect the pretense and understand the ironist's bantering attitude. According to Attardo (2000a), an ironic utterance is contextually inappropriate and relevant at the same time: the speaker has to be intentional about this double condition and the listener has to recognize it. Anolli *et al.* (2001: 143) propose the miscommunication theory: «miscommunication consists in a mask that conceals what one thinks or feels, but it is a mask that, in some regards, reveals what it hides, and, in other regards, hides what it reveals». Using irony, the speaker can blend the boundaries of their message in order to save face and express their ironic attitude at the same time. As for the reasons why one should choose irony over sincerity, we can refer to retractability (Attardo, 2000b). According to Berendonner (1981), the ironist can say something while not being committed to it, because the literal level is disconnected from the real message. -At the same time, the listener is more defensive and prone to positively evaluate the speaker (Jorgensen, 1996). Another reason could be the need to express feelings, attitudes, or evaluations: in the case of irony, usually, it is a negative attitude that needs to be blanded; in other words, through irony it is possible to mute both criticism and praise (Dews, Winner, 1995). All these theories are therefore connected to the idea that the speaker searches for politeness even if they want to express a negative attitude in order to preserve social relations: this can be defined as a social function.

We refer to a negative attitude just because irony is usually identified with sarcasm, but several studies assume a distinction between these two forms (inter alia, Muecke, 1969; Kreuz, Robert, 1993; Attardo, 2000a). Sarcasm communicates a critical comment by means of a polite sentence and it is usually characterized by a certain aggressiveness. In other words, it refers to a speaker's scornful and mocking stance. Haiman (1998) argues that sarcasm is totally intentional while irony is not. But sarcasm also meets other social needs. Sarcastic comments directed to someone who is not part of the group help to protect the group from external threats: in this case, it is an instrument of aggregation (Ducharme, 1994; Gibbs, 2000). In some specific contexts, sarcasm can also help to demonstrate the speaker's loyalty to the group.

Nevertheless, as asserted by Nunberg (2001) and sustained by Attardo *et al.* (2003), nowadays the term sarcasm seems to be occupying the semantic space of irony. This is the first reason why from now on we will use the two terms to refer to the same meaning; secondly, our corpus of ironic utterances is composed of more or less aggressive and malicious comments, and in some contexts, it is not so easy to label the utterance as ironic or sarcastic.

3. THE MARKERS OF IRONY: PROSODIC CUES

As pointed out by Attardo (2000b), there are some specific indices that convey a speaker’s ironic attitude. These indices suggest that a sentence is ironic and it would be even if the marker was absent. For example, an ironic sentence without a wink is still ironic because the speaker still means that what they are saying on a literal level should not be considered their real thought. However, according to the author, a distinction between factors and markers is necessary: «a marker may be removed without affecting the presence of the irony [...], while a factor may not be removed without destroying the irony» (Attardo, 2000b: 7). In other words, factors are an integral part of irony while markers alert the listener of the irony of the sentence. Nevertheless, markers and factors can be confused because the latter, even if more implicit than the former, also informs the listener about the presence of irony. As stated by Attardo (2000b), the ironic indices are: morphological means (some expressions such as *so to speak* or *one might say*) typographical means (like dots or ‘scare quotes’), kinetic markers (like winks, nudges, etc.), co-text, context but also intonation. The importance of vocal cues for the encoding and decoding of sarcasm has been identified by several pragmatical studies (e.g. Sperber, Wilson, 1981; Clark, Gerrig, 1984). However, the research on acoustic cues of verbal irony has only developed in recent years. The first research reconducted sarcastic communication to a combination of traits, such as extreme pitch levels, heightened pitch variation, but also monotony, higher intensity, slower speech rate, nasalization, and changes in voice quality (Fonagy, 1971; Cutler, 1974; Muecke, 1969; Shaffer, 1982; Haiman, 1998; Rockwell, 2000). Nevertheless, more recent empirical studies have shown several differences in the use of acoustic parameters in the communication of irony across languages. Table 1 shows a summary of the main prosodic traits expressed by verbal irony in the languages analyzed so far.

Table 1. *Tendencies of acoustic cues of verbal irony in the several languages analyzed to date*

Acoustic parameters	+/-	Languages
F0mean	+	French (Lævenbruck <i>et al.</i> , 2013) Italian (Anolli <i>et al.</i> , 2002; Gurrado, 2020, 2022, 2023) Thai (Kumwapee, Jitwiriyanont, 2020)
	-	American English (Cheang, Pell, 2008, Bryant, 2010) British English (Chen, Boves, 2018) Spanish (Rao, 2013) Cantonese (Lan <i>et al.</i> , 2019)
F0 st.dev.	+	French (Lævenbruck <i>et al.</i> , 2013) Italian (Anolli <i>et al.</i> , 2002) Cantonese (Cheang, Pell, 2009) Japanese (Adachi, 1996) Thai (Kumwapee, Jitwiriyanont, 2020)
	-	American English (Attardo <i>et al.</i> , 2003; Cheang, Pell, 2008; Mauchand <i>et al.</i> , 2018)

		British English (Chen, Boves, 2018) German (Nauke, Braun, 2011; Leykum, 2019) Mexican Spanish (Rao, 2013)
Pitch Range	+	French (Lævenbruck <i>et al.</i> , 2013) Italian (Anolli <i>et al.</i> , 2002; Gurrado, 2020, 2022, 2023) Cantonese (Cheang, Pell, 2009, Lan <i>et al.</i> , 2019) Japanese (Adachi, 1996) Thai (Kumwapee, Jitwiriyanont, 2020)
	-	American English (Attardo <i>et al.</i> , 2003; Cheang, Pell, 2008; Mauchand <i>et al.</i> , 2018) British English (Chen, Boves, 2018) German (Nauke, Braun, 2011; Leykum, 2019) Mexican Spanish (Rao, 2013)
Mean Intensity	+	Italian (Anolli <i>et al.</i> , 2002; Gurrado, 2020, 2022, 2023) Cantonese (Cheang, Pell, 2009; Lan <i>et al.</i> , 2019) Thai (Kumwapee, Jitwiriyanont, 2020)
Intensity Range	+	Italian (Anolli <i>et al.</i> , 2002) Cantonese (Lan <i>et al.</i> 2019)
Speech Rate	-	American English (Attardo <i>et al.</i> , 2003; Cheang, Pell, 2008; Mauchand <i>et al.</i> , 2018) British English (Chen, Boves, 2018) German (Nauke, Braun, 2011; Leykum, 2019) Mexican Spanish (Rao, 2013) French (Lævenbruck <i>et al.</i> , 2013) Italian (Anolli <i>et al.</i> , 2002, Gurrado, 2020, 2022, 2023) Cantonese (Cheang, Pell, 2009) Japanese (Adachi, 1996) Thai (Kumwapee, Jitwiriyanont, 2020)

As can be deduced by Table 1, there are two main verbal irony types. The first one can be defined as flat and it is characterized by a monotone and low F0 profile and a compressed pitch span, the second one is more emphatic and presents a higher and more dynamic F0 contour, a wider pitch range, and a higher intensity. It is important to consider that all the mentioned studies have used different methodologies and the tendencies we reported refer to sarcasm. However, in all the languages considered, irony is usually expressed with a reduced speech rate. According to some studies (Haiman, 1998; Kreuz, Robert, 1995), a slower speech rate helps to draw the listener's attention to a certain excerpt of discourse. Bryant assumes that there is a cognitive reason: «Slowing down speech gives the listener more time to process the relatively higher propositional load

often contained in verbal irony, compared to literal interpretations of the same utterances» (Bryant, 2010: 556).

With reference to Italian, the only studies conducted revealed an emphatic tendency, but they also found a certain level of variation (Anolli *et al.* 2002; Gurrado, 2020, 2021, 2023). For example, in Anolli *et al.* (2002), some sarcastic utterances revealed a flat intonation, but in Gurrado (2020), one speaker produced sarcastic exclamations with lower F0 maximum values and a more compressed tonal range than sincere exclamations.

In relation to other cues that can convey irony, Haiman (1998) identified falsetto, singsong voice, and the presence of long pauses between words. There are also paralinguistic traits, like laughter (Schaffer, 1982; Haiman, 1998).

4. VERBAL IRONY IN TELEVISION SHOWS

As previously mentioned, studies focused on verbal irony have used different methodologies and materials. Attardo *et al.* (2003) analyzed verbal irony in some American TV shows. Using a multimodal approach, the study was based on the analysis of the prosodic and mimic strategies used by actors to express irony. The corpus was made of 41 ironic expressions selected from famous American situation comedies aired in 1999. The results showed the presence of three principal tendencies related to the pitch: first of all a strong within-statement contrast was found, consisting in an alternation between an utterance characterized by a high pitch and a wide pitch range and an utterance with a reduced range; secondly, the study revealed the presence of a compressed pitch pattern; finally, the actors tended to produce pronounced pitch accent, specifically multiple pitch accents located on the entire utterance usually aligned with the content words and often on more than one syllable of the same word.

5. RESEARCH QUESTIONS AND HYPOTHESIS

The present study has two main research questions:

1. Does verbal irony differ from neutral speech³ in terms of acoustic cues in the acting of an Italian sitcom?
2. What prosodic strategies are used by Italian actors to perform irony? Do the two main characters of the sitcom personalize their way of expressing irony?

Our hypothesis is that irony differs from neutral speech especially with reference to F0, intensity and speech rate. Secondly, as each actor tends to use a specific style of acting, we assume that the two main characters analyzed will show several differences in terms of prosody, not only with regard to verbal irony but also with normal speech.

6. METHODS

The present research is focused on the analysis of prosodic cues of sarcastic comments in an Italian sitcom, in particular, the characters considered are interpreted by two actors that come from Genova. To date, no studies about the prosody of verbal irony in Italian

³ With the adjective *neutral* we refer to a voice that does not convey any particular affect or attitude. This kind of speech is usually implied as a control in this field of study.

TV shows have been conducted. In the next paragraphs, the methodology adopted will be presented.

6.1. *The show*

The sitcom we focused on is entitled *Camera Café*. Specifically, we analyzed the first 10 episodes of the first season aired on Italian TV (Italia 1 channel) in 2003⁴. The show was produced from 2003 to 2017⁵ (6 seasons) and it was based on the homonymous original French Format (*Caméra Café*). The sitcom is set entirely in front of the coffee machine located in the relaxation area of a Northern Italian company's office. The episodes tell the hilarious and sometimes surreal stories of some employees and managers, concerning work and personal events, as well as the continuous conflict with the competing company based on the upper floor. The main characters are Luca Nervi and Paolo Bitta, respectively the first trade unionist delegate and manager of the purchasing department and the second manager of the sales department. Luca and Paolo are also two best friends who spend most of their office hours hanging around in the relaxation area chatting with colleagues and making fun of them instead of working. Each character has a distinct stereotypical role in the company and also in the show's plot.

6.2. *The speakers*

The main characters are interpreted by Luca Bizzarri and Paolo Kesisoglou. They are both from Genova and at the time of the shooting they were respectively 32 and 34 years old. A description of the personalities of the characters could be useful for the interpretation of the results. Paolo is ignorant, irresponsible, an erotomaniac and an alcoholic; even if he is known by his colleagues for his amoral and illegal behaviour, he is also famous for his abilities in sales (in fact he defines himself as “the man called contract”) and that is the only reason why the manager doesn't fire him. Despite his ignorance, illiteracy and the criticism he receives from his colleagues, he is very full of himself and self-important.

Luca, on the other hand, is the first trade unionist delegate of the company, but despite taking pride in this role, he often agrees to submit to management, especially in exchange for payments or benefits, forgetting about his colleagues' well-being. He claims to follow Karl Marx's philosophy and Che Guevara's idealism but he seems to be wealthy; furthermore, he is very stingy. Differently from Paolo, Luca is cultured and a passionate cinephile.

This description shows that our two characters have very different personalities. However, watching the show reveals that Paolo and Luca share a strong impulse to say what they think. As a consequence of their way of being, they both make great use of sarcasm, most of all when they want to hit the interlocutor harder. Furthermore, in several scenes, they show some emotions, in particular joy and anger, in a very exaggerated way.

⁴ We focused on the first season of the sitcom which, as we mentioned, was aired on TV in 2003, because at that time Italian television was devoid of any politically correct tendency, this left the screenwriters free to write about everything with a large dose of sarcasm.

⁵ The first five seasons were aired on Italia1 channel and the other two seasons on Rai2.

6.3. *The materials*

We analyzed the first 10 episodes of the first season of *Camera Café*; each episode lasts about 30 minutes. We carefully focused on each communicative situation in order to link each comment to its context and evaluate it as either sarcastic or neutral. We isolated 40 ironic comments accompanied by their contexts; in addition, we chose 40 neutral comments⁶. A total of 80 stimuli were collected (40 per each character):

- Luca: 20 ironic comments + 20 neutral comments
- Paolo: 20 ironic comments + 20 neutral comments

As an example, we report a dialogue between Luca and Paolo in which they exchange jokes (1). Luca has just hit a parked car, so they ironize on the possibility of going looking for the owner of the car to settle the matter (the ironic comments are in bold).

- (1) Paolo: What have you done after?
Luca: **Well, I've obviously looked for the owner, I've been from office to office...**
Paolo: (laugh) **And then you have not found him and you have left your data on the windshield** (they both laugh).
Luca: Oh yes, I don't even know who could own that wreck⁷.

In (2) below, a dialogue in which can be detected a neutral comment produced by Paolo is reported:

- (2) Anna: But why should we strike on a Sunday?
Paolo: **Well, I don't know, it's Luca's idea**⁸.

The stimuli collected fall within the style of acted speech. Even if both Luca Bizzarri and Paolo Kessisoglu are from Genova, their speech is hardly associable with a specific Italian variety, probably as a result of diction and the personalization of each specific character.

6.4. *Acoustic analysis*

The stimuli were analyzed by means of PRAAT (6.3.10) considering the variables employed in this field of study:

- average F_0 mean (F_{0x}), F_{0min} , F_{0max} (Hz)
- pitch range (ST)_PR

⁶ The utterances were recorded using the Audacity software.

⁷ Original Italian version:

Luca ha tamponato una macchina nel parcheggio.

Paolo: e dopo cosa hai fatto?

Luca: **beh ovviamente ho cercato il proprietario, sono andato in giro in tutti gli uffici.**

Paolo: (risata) **Poi non l'hai trovato e hai lasciato i dati sul parabrezza** (risate di entrambi).

Luca: Sì sì sì sì, non so neanche di chi sia quel rottame.

⁸ Original Italian version:

Anna: Ma in effetti perché si fa sciopero di domenica?

Paolo: **Ah non lo so, è un'idea di Luca.**

- mean intensity (dB)_INT
- duration of the final stressed vowel (ms)_FSV
- speech rate (syll/s) SR

Statistical significance was examined by means of the Paired-Samples T Test.

7. RESULTS

The results will be discussed separately according to each research question. First of all, we compared the ironic comments with the neutral utterances with no distinction between characters. Secondly, we focused on each speaker and then we compared Luca's and Paolo's speeches.

7.1. *Inic comments vs. neutral utterances*

The data revealed that there are no statistically significant differences between the ironic comments and the neutral utterances we selected. As shown in Fig. 2., F0, intensity and duration parameters were not influenced by the attitude conveyed by the utterances.

Table 2. *F0, intensity and time mean differences between ironic and neutral utterances and t test values*

Ironic/Neutral	Mean	t	df	p.
F0x	2.57	0.313	39	>.05
F0min	6.68	1.62	39	>.05
F0max	19.82	1.37	39	>.05
PR	0.32	0.32	39	>.05
INT	0.40	0.69	39	>.05
FSV	3.90	0.11	39	>.05
SR	-0.47	-1.26	39	>.05

However, focusing on standard deviation data, we noticed that F0 results needed a deeper analysis, in particular F0maximum (st.dev._IRO: 75.14; st.dev._NEU:53.53), PR (st.dev._IRO: 5.35; st.dev._NEU: 4.23) and SR (st.dev._IRO: 1.86; st.dev._NEU: 1.85) results showed a very high standard deviation. This tendency was verified during the second analysis, the one dedicated to each singular speaker.

7.2. *Characters' irony*

The acoustic analysis showed that ironic comments produced by Luca are characterized by higher F0max and PR values than neutral utterances in a statistically significant way (Table 3). The two attitudes seem to differ also in terms of speech rate: ironic comments were slower than neutral ones for about 1 sill/s.

Table 3. *F0, intensity and time mean differences between Luca's ironic and neutral utterances and t test values*

Ironic/Neutral	Mean	t	df	p.
F0x	18.58	1.43	19	>.05
F0min	7.98	1.23	19	>.05
F0max	42.89	2.30	19	<.05
PR	2.01	2.03	19	=.05
INT	0.36	0.38	19	>.05
FSV	9.25	0.74	19	>.05
SR	-0.94	-2.28	19	<.05

This discrepancy suggests that Luca tends to differentiate the prosodic cues of his speech according to the attitude, ironic or neutral, he wants to express, specifically by exploiting high pitch and slowing down the speech. As an example, we report the waveform, broad spectrogram and F0 contours of two utterances pronounced by Luca, Figure 1 is sarcastic, while Figure 2 is neutral. The former shows a very dynamic F0 profile, with two visible high pitches aligned with the content words “genio” (genius) and “vende” (sell); the utterance is also more intense and located on a higher area of the tonal range than the neutral one. Table 4. helps to make a comparison between the two utterances showing that the sarcastic one presents higher values of F0max, pitch range, and intensity and it is also slower than the non-sarcastic one.

Table 4. *F0, intensity and time mean differences between Luca's ironic and neutral utterances reported in figg. 1 and 2*

IRO/NEU	F0x	F0min	F0max	PR	INT	FSV	SR
Mean	-9.35	-23.53	66.6	9.98	2.53	-1	-3.53

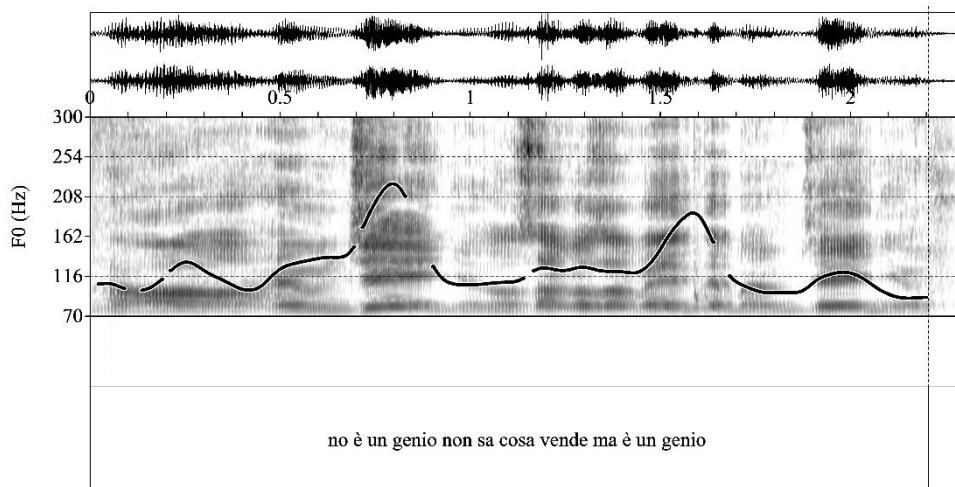
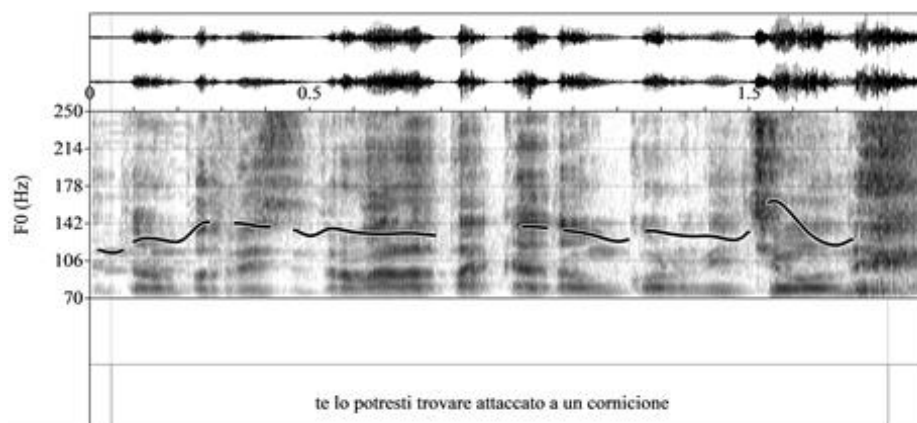
Figure 1. *Waveform, broad spectrogram and f0 contour of an ironic utterance pronounced by Luca*

Figure 2. *Waveform, broad spectrogram and f0 contour of a neutral utterance pronounced by Luca*



Otherwise, no differences in terms of prosody were found in Paolo’s speech between the two attitudes (Table 5).

Table 5. *Paolo’s F0, intensity, and time mean differences between ironic and neutral utterances and t test values*

Ironic/Neutral	Mean	t	df	p.
F0x	-13.42	-1.08	19	>.05
F0min	5.38	0.80	19	>.05
F0max	-3.25	-0.12	19	>.05
PR	-1.36	-0.66	19	>.05
INT	0.43	0.56	19	>.05
FSV	-1.45	-0.02	19	>.05
SR	0.01	0.02	19	>.05

7.3. *Luca vs. Paolo*

One of our aims was to compare the two main characters’ speech in terms of prosody. First of all, we focused on neutral speech: as shown in Table 6, F0x is the parameter that statistically differentiates Luca and Paolo’s neutral utterances. In particular F0x and F0max values are higher in Paolo’s speech, while even if the PR’s mean difference is 1.78 Hz, the p. value is higher than 0.05.

Table 6. *F0, intensity and time mean differences between Luca and Paolo’s neutral utterances and t test values*

L_Neu/P_Neu	Mean	t	df	p.
F0x	-23.61	-2.47	19	<.05
F0min	-3.71	-0.83	19	>.05
F0max	-33.64	-2.10	19	=.05
PR	-1.78	-1.99	19	>.05
INT	-0.31	-0.32	19	>.05
FSV	-25.20	-0.47	19	>.05
SR	-0.66	-1.16	19	>.05

In Figure 3 and 4 the waveform, broad spectrogram, and F0 contours of two neutral utterances pronounced by Luca and Paolo are reported. At first glance, it is possible to notice that Paolo's pitch contour (Figura. 4) is more dynamic than Luca's (Figura 3); the former presents a higher pitch than the latter and is located in the lowest area of the tonal range. The data reported in Table 6 shows the difference between the two utterances in terms of frequency, intensity, and rate. Paolo presents higher F0x and F0max values, a wider pitch range, a higher intensity, a longer final stressed vowel duration, and a faster speech rate.

Table 7. *F0, intensity and time mean differences between Luca and Paolo's neutral utterances reported in figg. 3 and 4.*

Luca/Paolo	F0x	F0min	F0max	PR	INT	FSV	SR
Mean	-9.4	+5.33	-15.37	- 20.7	-4.28	-30	-1.20

Figure 3. *Waveform, broad spectrogram and f0 contour of a neutral utterance pronounced by Luca.*

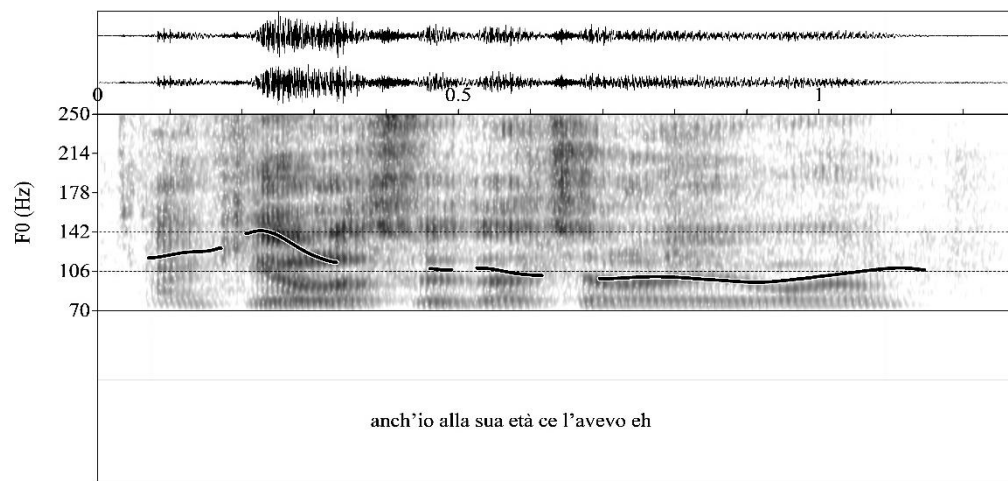
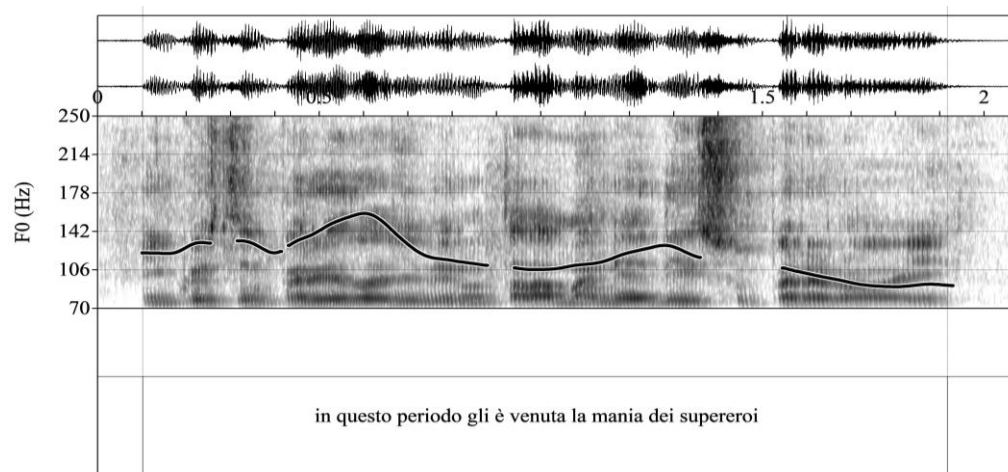


Figure 4. *Waveform, broad spectrogram and f0 contour of a neutral utterance pronounced by Paolo*



We also verified whether Luca and Paolo used different strategies to express irony in their performance. Our data showed that only the speech rate statistically differentiated the two characters (Table 8), with the former (6.97 syll/s) speaking slower than the latter (8.58 syll/s), as the utterances in Figure 3 and 4 already suggested.

Table 8. *F0, intensity antab.d time mean differences between Luca and Paolo's ironic utterances and t-test values.*

L_Iro/P_Iro	Mean	t	df	p.
F0x	8.39	0.75	19	>.05
F0min	-1.11	-0.17	19	>.05
F0max	12.50	0.57	19	>.05
PR	1.59	0.85	19	>.05
INT	-0.38	-0.63	19	>.05
FSV	-14.50	-0.29	19	>.05
SR	-1.61	-2.72	19	<.05

8. DISCUSSION

The present pilot work aims to contribute to the field of research dedicated to verbal irony. The majority of existing studies analyze irony from a semantic and a pragmatic perspective because the encoding and decoding of the ironic attitude are strictly connected to the context and the mutual knowledge of the interlocutors. If contextual references are insufficient or completely absent, ironic communication could be misinterpreted, because the real message could be lost. Nevertheless, there is another instrument that supports and creates a connection between the literal and non-literal meaning, that is intonation. In the last 20 years, several scholars have aimed to delineate a tendency that could shed light on the typical cues of verbal irony in terms of prosody. As mentioned, the actual common thought, based on experimental data, is that verbal irony is not easily linked to a prototypical vocal profile, because each language makes particular use of some prosodic traits (Leykum, 2019). Two main prosodic tendencies have been identified so far: on the one hand, a kind of emphatic irony, characterized by a dynamic F0 profile, high F0 values, a widening of the pitch range, and a rising of intensity. On the other hand, a monotone pitch and a compression of the tonal range. Both tendencies are usually accompanied by a slowing down of the speech rate. It has been noticed that some languages are related to the first ironic vocal profile, while other languages show the second one (see Table 1). It is also true that the studies conducted so far are based on different experimental designs. Italian usually presents an emphatic verbal irony, with some exceptions that show a flat irony (Anolli *et al.*, 2002; Gurrado, 2020, 2022, 2023). Based on this picture, our pilot study tries to enter this field of research with reference to Italian and to a particular type of speech, that is acted speech.

We aimed to analyze first of all the differences between verbal irony and neutral speech in an Italian sitcom, and then to verify whether the actors use different strategies in the communication of irony from a prosodic point of view. We analyzed a corpus of acted speech⁹ and this can be considered the first study based on the acoustic analysis of verbal irony in an Italian TV show¹⁰. We focused on *Camera Café*, a situation comedy aired on an

⁹ Before this same work, Anolli *et al.* (2002) invited non-professional Italian actors to read sarcastic sentences, so they obtained a corpus of acted speech.

¹⁰ As we said, Attardo *et al.* (2003) analyzed an American TV Show (§ 4).

Italian TV channel for the first time in 2003. The first season of the show is very politically incorrect, the characters, who are the employees of a business company located in the north of Italy, usually make fun of everything, without sparing sexist, homophobic, and xenophobic jokes, as a depiction of the comedy style at the time the show was aired. Irony is largely present in this sitcom, usually in a sarcastic form, and it is mainly used by the two main characters Luca and Paolo, that is the reason why we chose them as our speakers. Our experimental design provided the acoustic analysis of a corpus of ironic utterances extrapolated by the first season of the show. The data revealed that the ironic speech of the two characters is not significantly different from their neutral speech: this result was unexpected and in disagreement with the tendencies revealed by the other studies conducted so far. Nevertheless, high standard deviation values of F0max, PR, and SR indicated some degree of variation between speakers. With reference to Luca, the data showed that ironic comments are produced with higher F0max values and a wider PR, these data align with the studies focused on French (Lœvenbruck *et al.*, 2013), Italian (Anolli *et al.*, 2002; Gurrado 2020, 2022, 2023), Cantonese (Cheang, Pell, 2009; Lan *et al.*, 2019), Japanese (Adachi, 1996) and Thai (Kumwapee, Jitwiriyanont, 2020). Irony is also slower than neutral speech and this is a typical ironic prosodic cue identified in all the languages considered so far, as we noticed in Table 1. These results suggest that Luca enacts an emphatic irony, specifically exploiting frequency and SR parameters. However, Paolo's data do not confirm our hypothesis, since the results collected for the two attitudes were comparable. He doesn't even slow down his speech to signal the ironic intention.

The comparison between these two speakers throws light on these fun facts: Paolo presented higher F0x, F0max values and a longer FSV than Luca, while their ironic speech differed only in speech rate. On the basis of this dynamic, it is possible to deduce that the character interpreted by Paolo usually communicates with an emphatic speech that mirrors his bloated ego and he probably doesn't usually exploit the prosodic parameters analyzed here to signal the ironic attitude. Luca raises the F0 values and widens the pitch range in order to highlight the moments of bantering and mocking and to communicate to the listener the contrast between the literal and non-literal levels of his comments. Luca is never so excited as Paolo, who is always revved up and impatient to show off, even in non-emotional or normal situations. In a way, Luca's speech finds a meeting point with Paolo's speech only when the former is ironic because in those moments Luca marks his prosody with a consequent rise of the values. The reason why Paolo's ironic speech does not show marked prosody invites us to reflect: first of all, this actor probably relies on other prosodic cues, such as the quality of voice that we have not analyzed in this study; secondly, he could make use of some paralinguistic elements, like laughter, falsetto or singsong voice, that have been identified as typical ironic indices (Schaffer, 1982; Haiman, 1998). Another reason could be found in gesture: Paolo probably exploits his acting skills focusing more on facial expressions than on intonation¹¹. The results collected in this pilot study provide some answers but also several doubts which invite further investigation and research. First of all, the corpus should be increased; secondly, we aim to perform a multimodal analysis of the scenes selected in this study, in order to verify the gesture preferred by the speakers to express irony. Lastly, an analysis of the emotions should be done, because irony is sometimes connected to different emotions like anger or joy and this could affect the prosody of the utterance in different ways.

¹¹ For the importance of gesture in ironic communication see (*inter alia*) Attardo *et al.* (2003), González-Fuente (2015).

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