

Prime Ministerial Leadership Contest May 2010 Identifying the presentation “X-factor”

Personal Presence Analysis®
For
Gordon Brown, David Cameron and Nick Clegg

Part 1: Voice Analysis Results

Samples extracted from the live televised debate held on April 15th 2010

Procedure: 7 samples of the speaker’s voice were digitised and submitted to acoustical signal analysis. The samples were chosen on the basis of the verbal content and emotional involvement in discourse (Introductory statement, Economy, Education, NHS, Immigration, MPs, and Army). The measured values were compared with those of reference-speakers of similar professional and social background in public speaking situations. In the graphics they are expressed on a percentage scale (relative to the reference values).

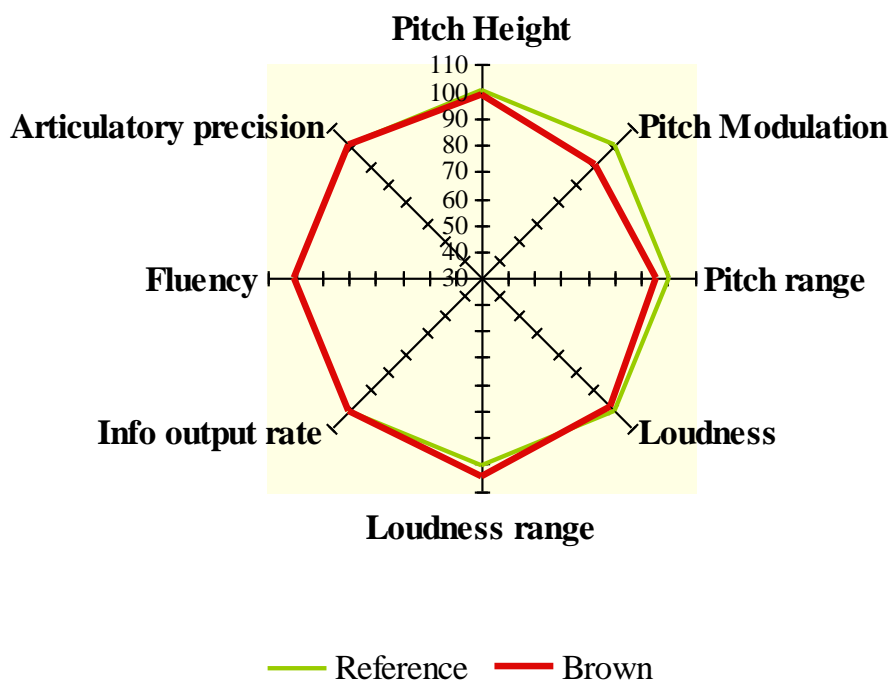
Subject: Gordon Brown

Vocal Parameter	Unit	Reference Range	Subject's measured Average of all Samples
Pitch Height (average of all samples)	Hz	105-126	110
Loudness (voiced speech segments)	dB	70 - 72	69.2
Speech rate	Syllables/sec	5.5-5.8	5.5

Mr Brown's Voice Profile

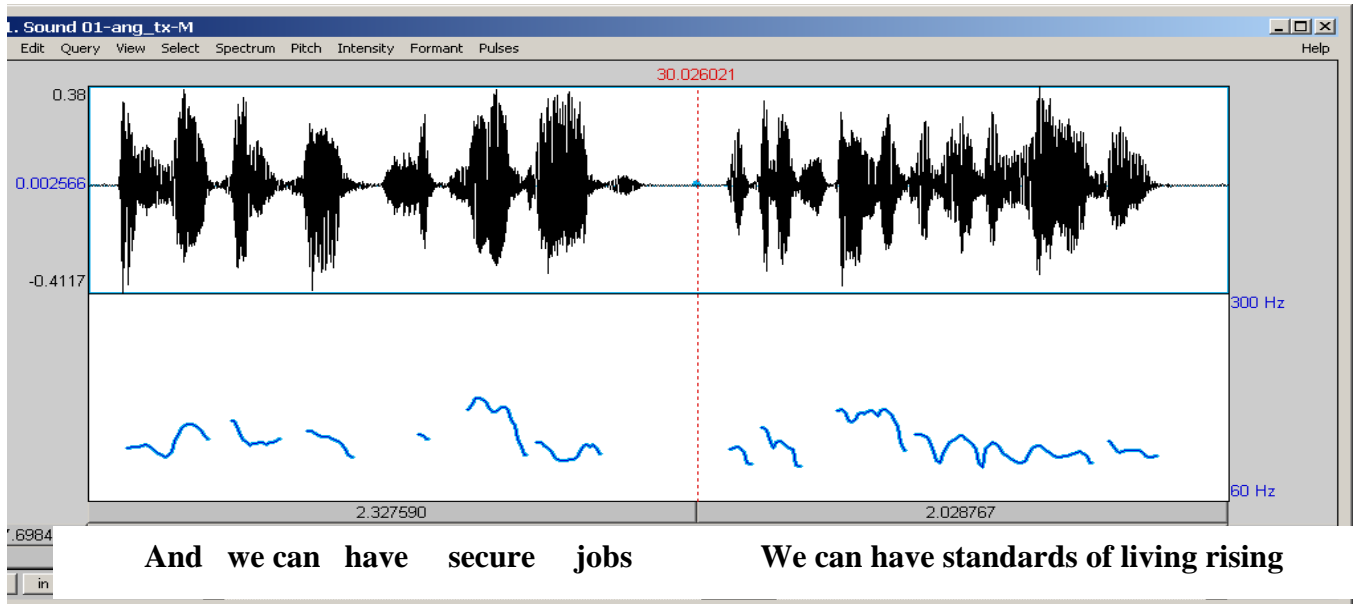
As shown in the Voice Profile graph, 7 out of 8 vocal parameters fall within the range of reference values. The speaker's pitch is of optimal height, his pitch modulation is only slightly weaker than required, and his loudness range is only 4% wider than expected. The speaker's articulation is clear and his fluency scores 100% (no vocal fillers or hesitations). See Fig: Voice profile.

Voice Profile (all samples)



Vocal style

Mr Brown varies his loudness level considerably. Although his pitch modulation is somewhat restricted, he sounds dynamic because of his excellent speech rate and perfect fluency. Very skilfully Brown chunks the information into sense groups that are well delimited by pauses, thus allowing easy comprehension of his messages. He uses pitch emphasis to mark the most important words in the sentence (see figure below).



The dominating attitude transmitted by his vocal style is that of forceful determination and control of any “excessive” emotionality. One can hear only justified sadness in his voice.

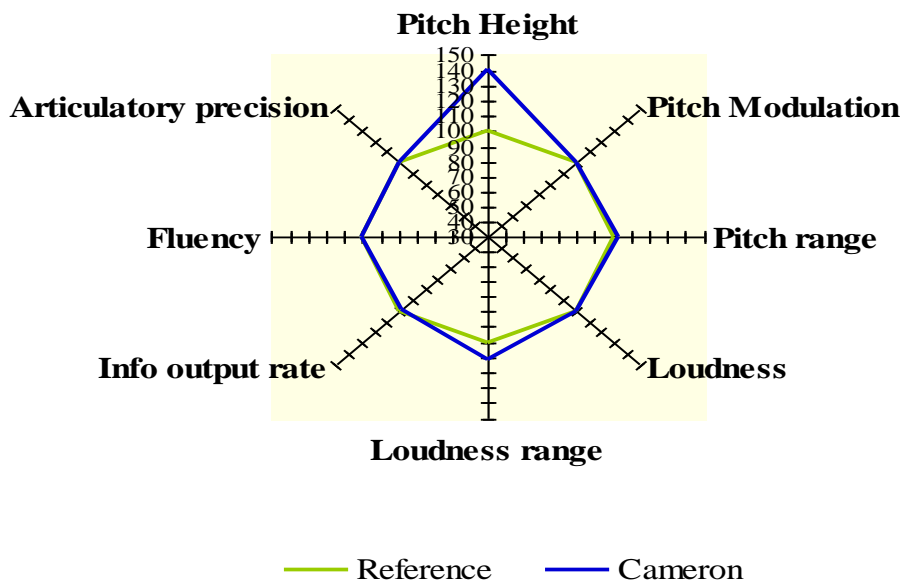
Subject: David Cameron

Vocal Parameter	Unit	Reference Range	Subject's measured Average of all Samples
Pitch Height (average of all samples)	Hz	105-126	177
Loudness (voiced speech segments)	dB	70 - 72	70.6
Speech Rate	syllables/sec	5.5 - 5.8	5.3

Mr Cameron's Voice Profile

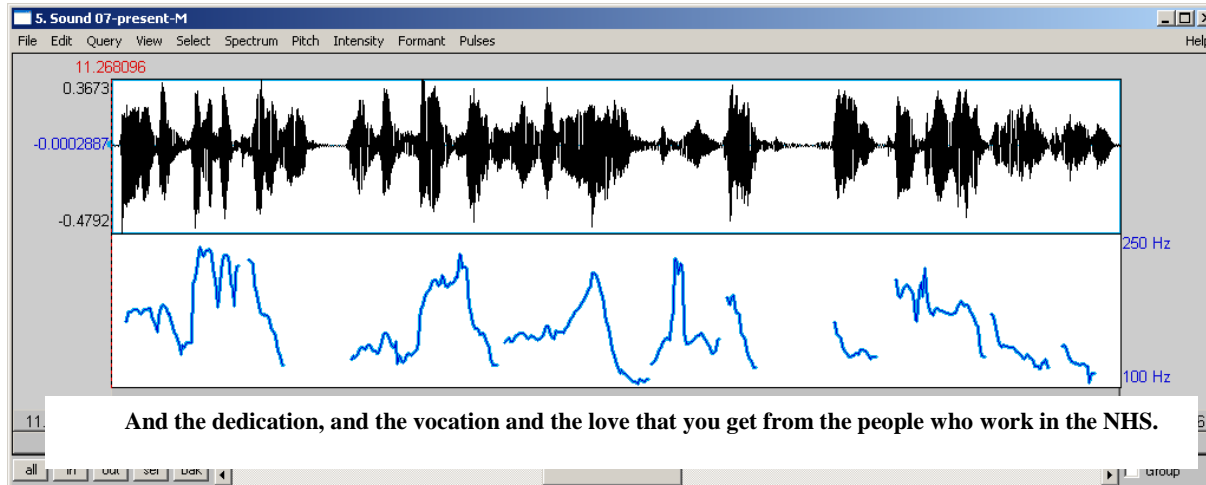
As shown in the Voice Profile graph, 6 out of 8 vocal parameters fall within the range of reference values. The speaker's pitch is much higher than the reference, his pitch modulation and pace are optimal, his loudness range is 10% wider than expected. The speaker's articulation is clear and his fluency scores 100%. See Fig: Voice profile.

Voice Profile (all samples)



Vocal style

Mr Cameron varies his loudness level considerably. He sounds dynamic because of his good use of pitch for emphasis (see figure below) and perfect fluency. His average pitch is quite high. This diminishes the image of authority and competence.



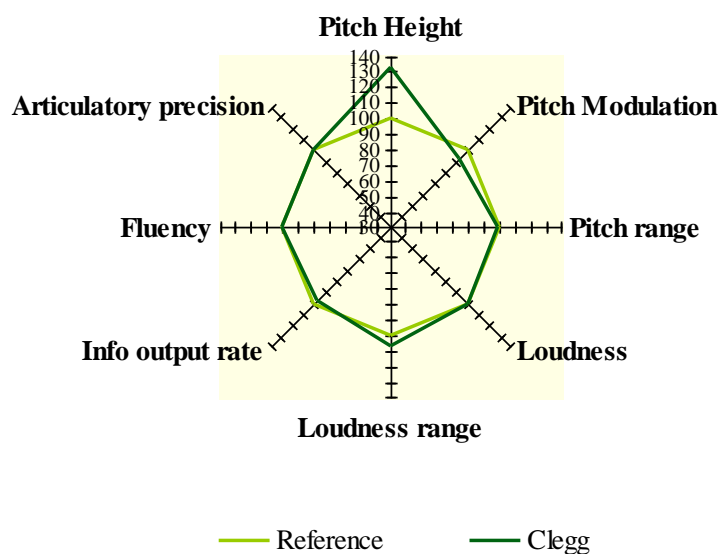
Subject: Nick Clegg

Vocal Parameter	Unit	Reference Range	Subject's measured Average of all Samples
Pitch Height (average of all samples)	Hz	105-126	166
Loudness (voiced speech segments)	dB	70 - 72	69.8
Speech Rate	syllables/sec	5.5 - 5.8	5.3

Mr Clegg Voice Profile

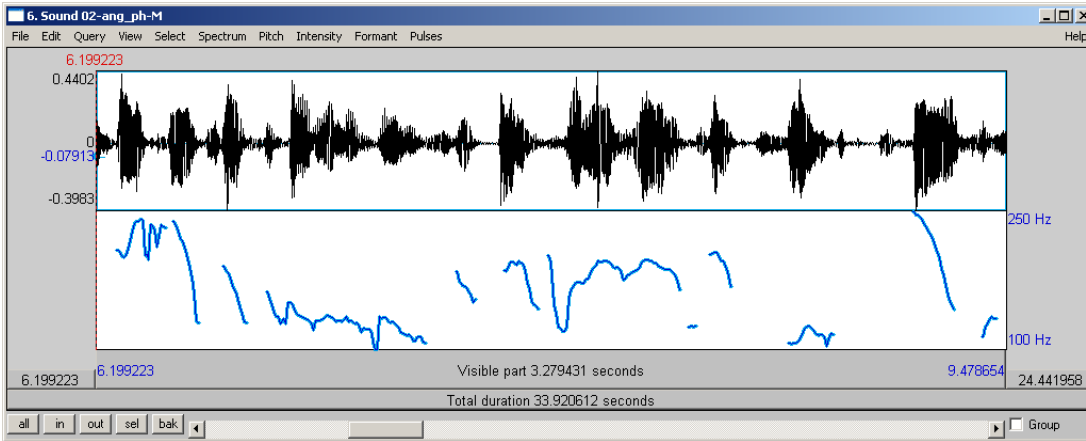
As shown in the Voice Profile graph, 5 out of 8 vocal parameters fall within the range of reference values. The speaker's pitch is much higher than the reference, his pitch modulation is slightly low, his pitch range is optimal, while his loudness range is 6 % higher than expected. The speaker's articulation is clear and his fluency scores 100%. See Fig: Voice profile.

**Voice Profile
(all samples)**

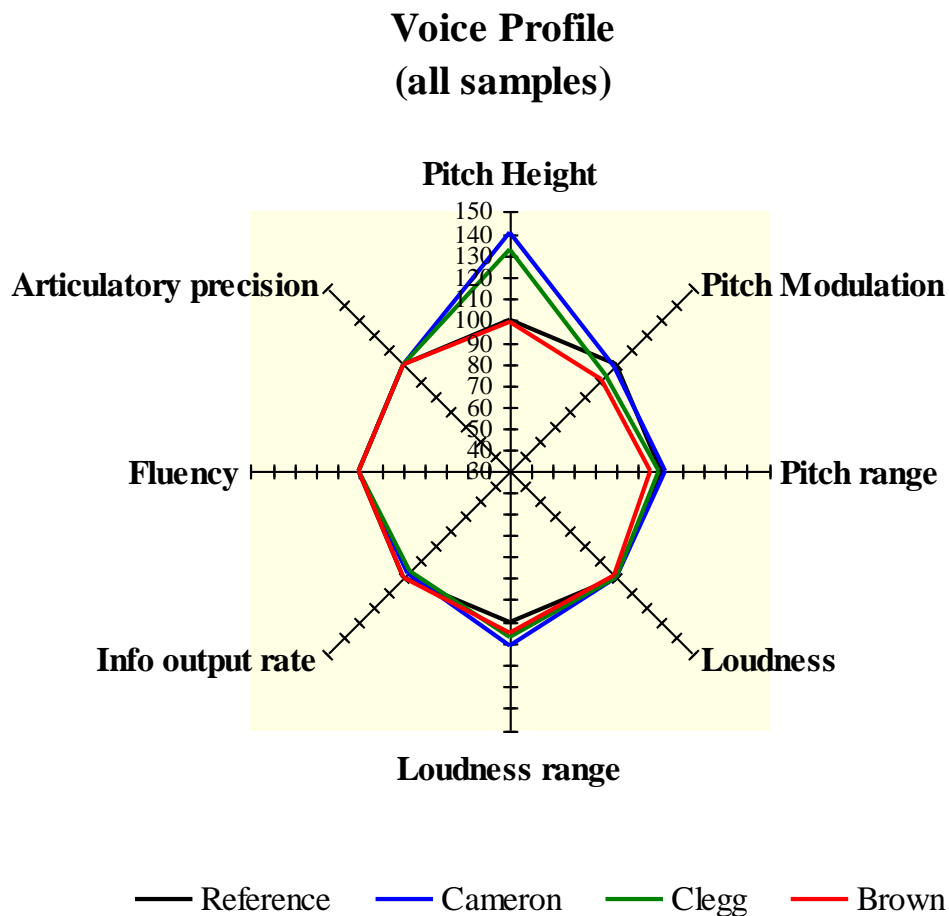


Vocal style

Mr Clegg's pitch is relatively high and his use of pitch for emphasis is fairly good (see figure below). His vocal potential of persuasion rests mainly upon his skilful use of the loudness parameters and optimal pitch range (see figure below).



Vocal Pattern Comparison of 3 speakers

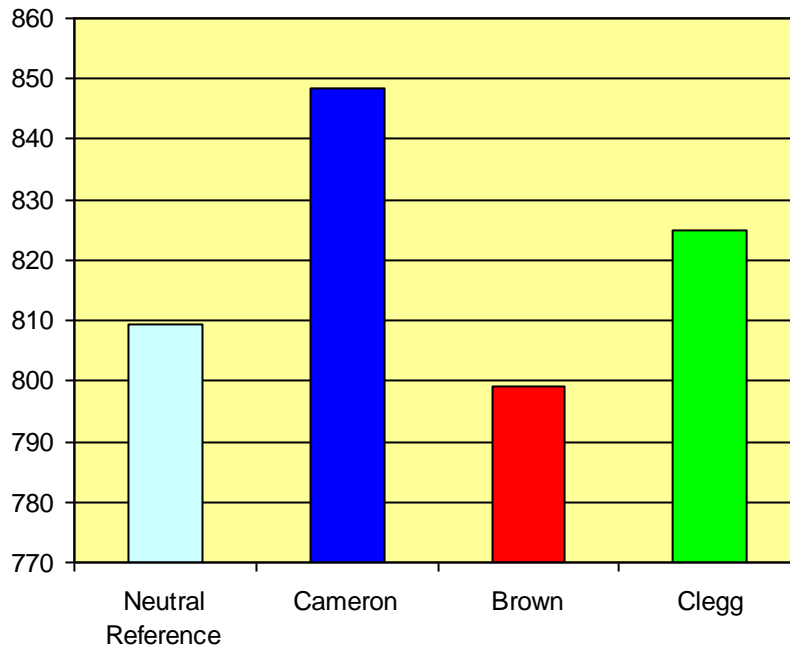


Brown has the lowest pitch. This is his strong point. Low pitch is usually associated with the status of social dominance, power, emotional control and self confidence. 99% of his intonations have a downward falling trend. This feature contributes to the image of control and finality.

Cameron's pitch is the highest. This is his weak point, because high pitch is usually associated with a socially non-dominant status, uncertainty, and even "physical" weakness (or small size). Combined with his facial expressions of worry, it may give the impression of weakness.

Clegg's pitch is also high (but less high than Cameron's). However it is not so easily associated with the impression of helplessness, as his overall emotional involvement is mid-range compared with Brown's and Cameron's. (See figure below).

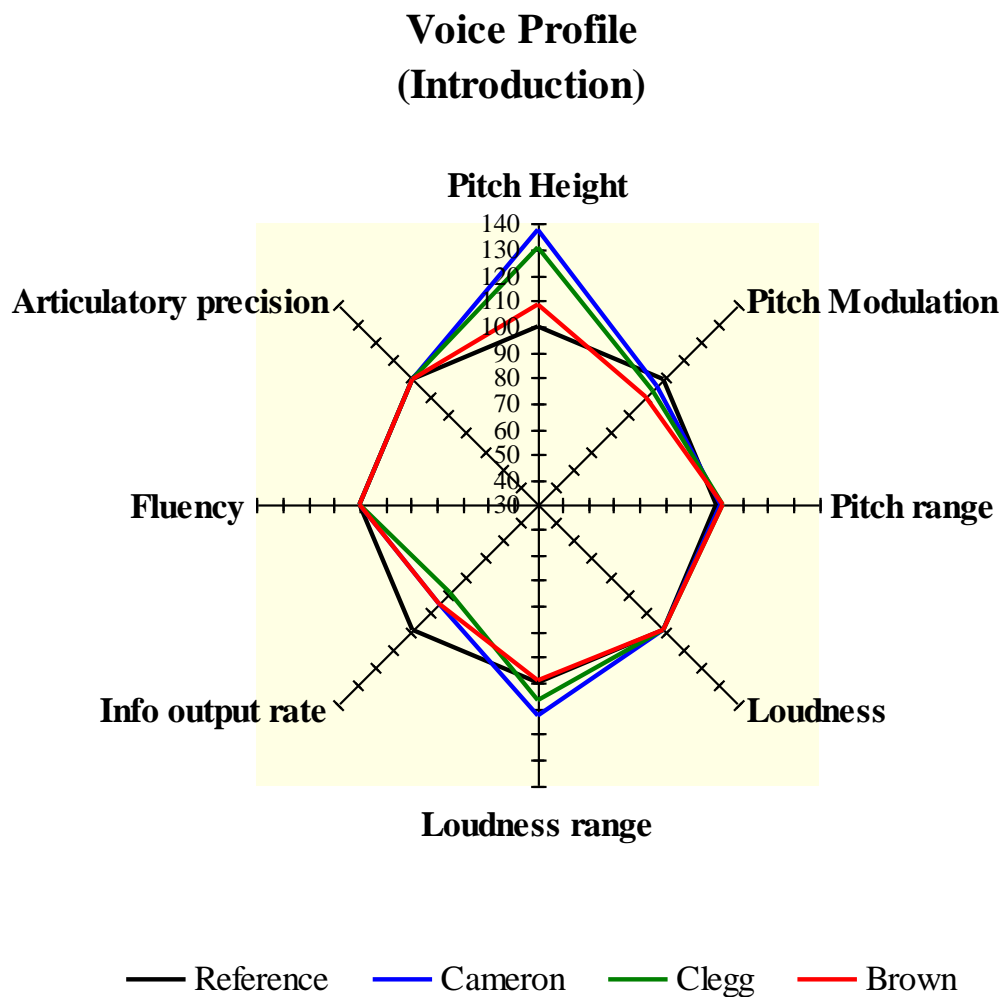
Degree of vocally expressed emotional involvement
(average of all samples - all topics) expressed



Indeed speakers with highly pitched voices are not always perceived as having a non-dominant social status, if the high pitch is combined with emotional expression and the impression of emotional control. Displaying too much emotional involvement can be as detrimental as displaying too little. High vocal involvement can be associated with any high-arousal emotion (fear, anger, great joy, jubilation, panic), while low arousal can be associated with emotional states such as: sadness, indifference, disappointment, disinterest etc.

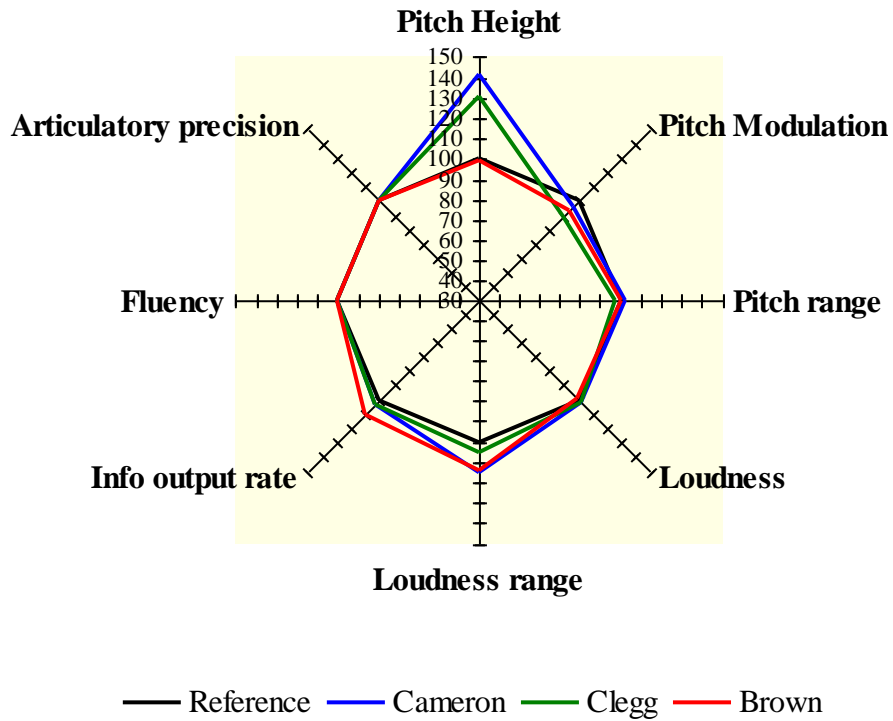
Compared with other speakers Brown displays least of emotional involvement (even less than the reference speakers' emotionally neutral speech patterns), Clegg displays just the right degree, while Cameron displays too much.

Comparison of the Three Speakers per Topic



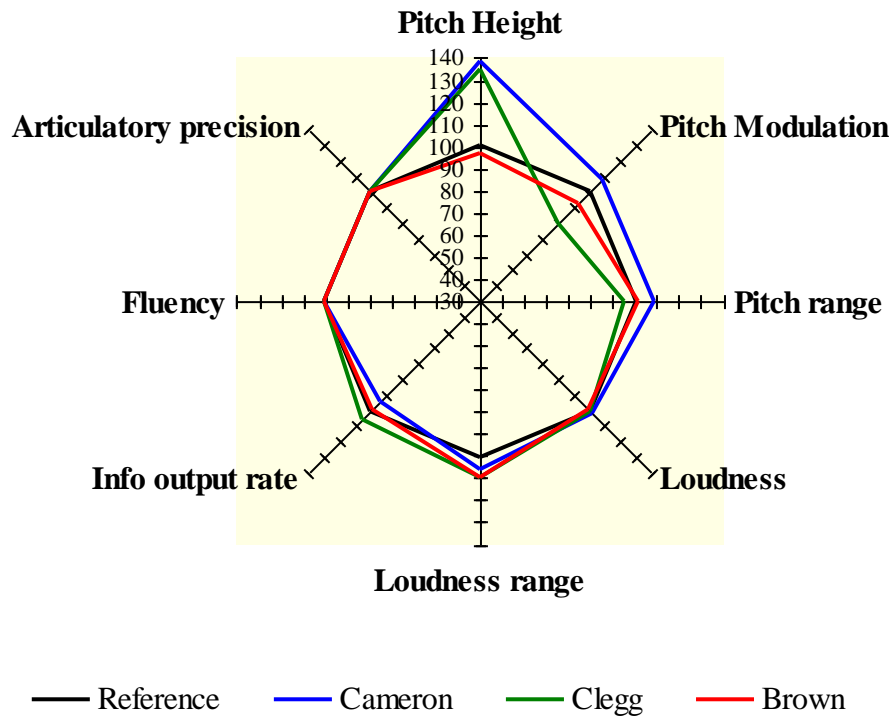
Cameron shows the highest degree of vocal involvement.

Voice Profile (Immigration)



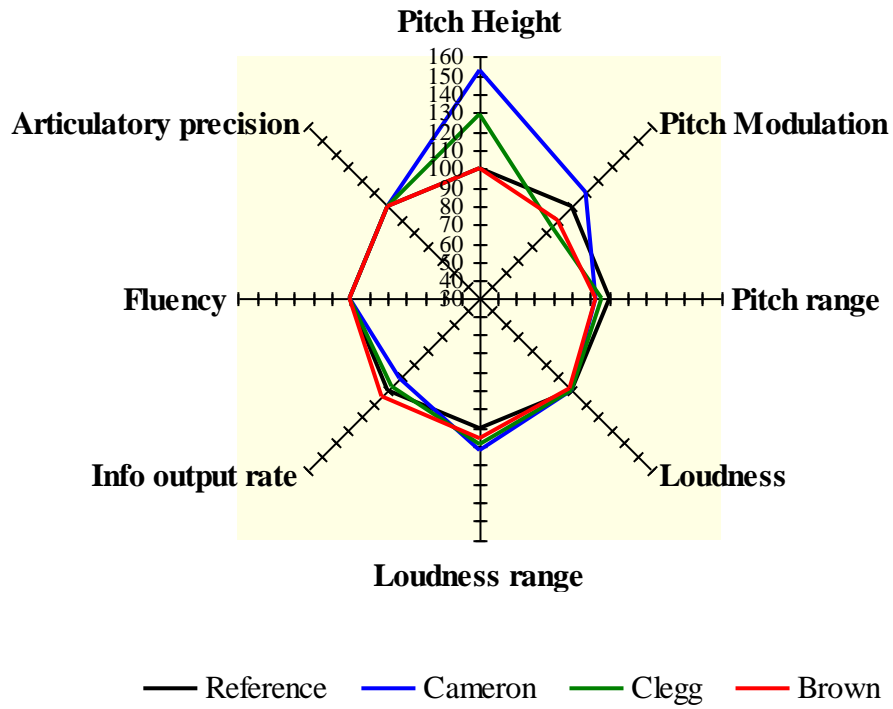
Cameron shows the highest degree of vocal involvement.

Voice Profile (Economy)



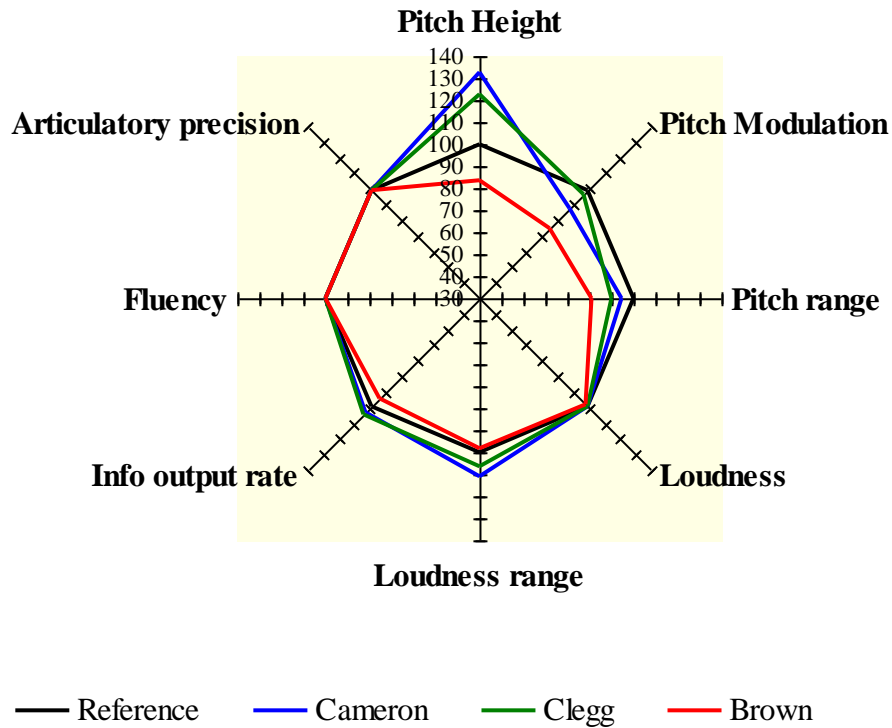
Cameron shows the highest degree of vocal involvement.

Voice Profile (Education)



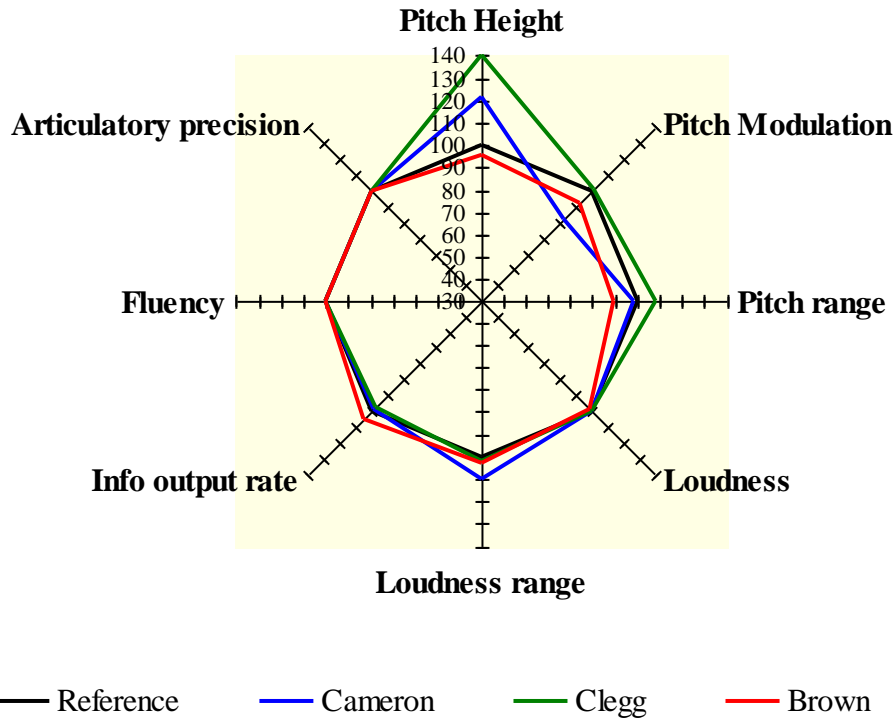
Cameron shows by far the highest degree of vocal involvement.

Voice Profile (Army)



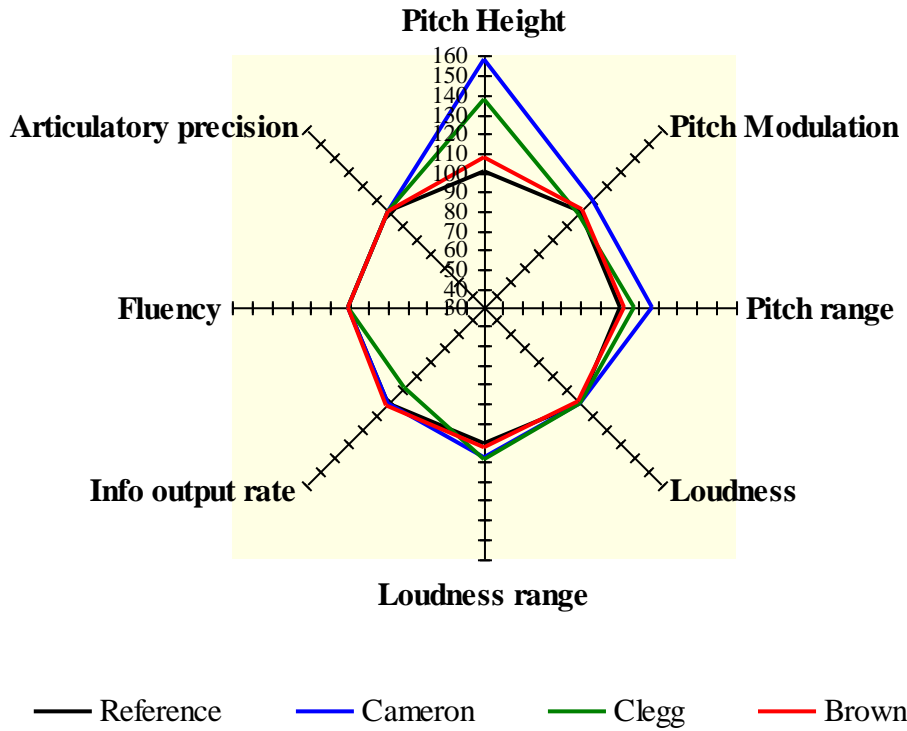
When talking about the Army involved the feeling of sadness, Brown showed the highest degree of sadness (emotional involvement) regarding the loss of human lives.

Voice Profile (NHS)



Clegg showed the highest degree of vocally expressed emotional involvement when talking about NHS. In comparison with his performance in the other topics, Cameron displayed a much less of emotional involvement in this topic.

Voice Profile (MPs)



Cameron shows by far the highest degree of vocal involvement.

Part 2: Gestures and facial Expressions Non-verbal Behaviour Analysis

As defined by Prof. René Zayan (University of Louvain), a charismatic leader displays a certain number of characteristics that contribute to him being perceived as popular, empathetic and a figure of authority. These are:

1. Congruence between verbal and non-verbal channels of communication,
2. Gestures of illustrative type,
3. Facial display of positive affect,
4. Absence of facial expressions of anxiety,
5. Visual display of empathetic listening.

We therefore examined if the three candidates displayed these characteristics during the debate held on April 15th 2010.

Method:

1. Acoustic analyses of the candidates voices (using Praat software elaborated by Prof. Paul Boersma and David Weenink, University of Amsterdam)
2. Analyses of facial expressions (using Prof. Paul Ekman's Facial Action Coding System, University of California).

1. Congruence between verbal and non-verbal channels of communication

Nick Clegg displays expressions of anger that are congruent with the content of his discourse. This contributes to him being perceived as sincere.



“An economy no longer held hostage”



“What makes me so angry”
(upper and lower eyelids tightened: controlled anger)



Talking about a hospital not having enough doctors

His frequent pressing of the lips at the end of important sentences, can be interpreted as expression of a blend of two feelings: the feeling of potency (ability and determination to cope with the problem) and sadness about the state of the country.



“We can create the fair country we all want”



“Those are the changes I believe in”.

Cameron also displays congruent affects but less frequently.



“It is nonsense”. Anger
(Jaw thrust forward).



When talking about the
amount of money spent
on education without any
results (sadness)

With the exception of sadness, Brown’s facial expressions are very rarely congruent with the content of his discourse. His facial expressions are either emotionally non specific or neutral. One can notice an almost complete lack of mobility in the upper part of his face. His can be perceived as emotionally indifferent or insincere.



When talking about
the economy



When talking about
immigration



When talking about
education

The only congruent expression is a display of sadness when talking about the war.



“Every time I have to write to a family where someone has died”.

2. Gestures of illustrative type

All three candidates made frequent ample bilateral gestures.
Brown and Cameron made many prosodic gestures.



Clegg has a much wider repertoire of gestures.



Very frequent finger pointing in Brown and Cameron's direction.



Deictic



Iconic

3. Facial display of positive affect

Brown is the only candidate displaying clear positive affect but it is rarely congruent with the verbal context. It is either when he is being criticized by another candidate or when he is provoking Cameron. It is therefore perceived as ironic amusement not as genuine joy.



"This is not question time, this is answer time David"



When Clegg is criticizing Brown about ID cards

When positive affect is shown by Cameron, it is controlled. The eyes are tightened but the lips are pressed together and only slightly stretched.



Clegg only shows positive affect in blends with other emotions.



Blend of surprise and amusement when talking about Brown's politics on education.



Blend of anger and amusement when Brown's says "I agree with Nick".

4. Absence of facial expressions of anxiety

Since Brown remains very neutral in his facial expressions, one cannot see any signs of anxiety.

Clegg displays only one fleeting expression of doubt.



When talking about his
economic plan

Cameron, on the other hand makes frequent expression of helplessness: downward gaze, dropping of the upper eyelids and raising of the inner corners of the eyebrows.



5. Visual display of empathetic listening

Brown displays a neutral expression most of the time when someone else is talking. He often looks at his notes and frequently gazes to the side when criticized. One can see an expression of slight contempt (unilateral lip corner raising) when listening to Cameron's answer about economics.



Gaze aversion

Contempt

When others are speaking, Cameron's expressions are mainly neutral. However one can notice clear signs of anger when listening to Brown.



Controlled anger when Brown is talking about the army



Activation of the *corrugator* when Brown attacks Cameron on the MPs.



Clegg's expressions are mainly neutral or slightly amused when listening to the answers of others. One can see one blend of anger and slight sadness when Cameron asks him if the Liberal Democrats had given back the money they had taken.



Conclusion

Brown displays a very narrow repertory of facial expressions and gestures, resulting in an impression of low emotional involvement in his discourse. The latter may be interpreted as lack of sincerity.

Cameron is perceived as more sincere but not entirely charismatic as his presence is hindered by a frequent expression of helplessness and many displays of controlled anger.

Clegg is perceived as a figure of authority and a charismatic speaker as his wide repertoire of expressions include forcefulness and potency. His gestures illustrate and reinforce his message. On the other hand, the many blends of emotions and the micro-expression of doubt give a slight impression of repressed uncertainty.

Therefore one can conclude that Clegg is the candidate who presents the highest number of features of a charismatic leader, followed by Cameron. Brown is the candidate who displays the lowest number of these characteristics.