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- 1 Contributions to a neurophysiology of meaning: The interpretation of a
- written message could be an automatic stimulus-reaction mechanism
- before becoming conscious processing of information. 3
- Roberto Maffei*1, Livia Selene Convertini1, Sabrina Quatraro1, Stefania Ressa1, 5
- 6 Annalisa Velasco¹
- 8 ¹ A.L.B.E.R.T. (ARPA-Firenze Landmarks on human Behaviour Experimental Research
- 9 Team), Florence – Italy.

11 * E-mail: roberto@robertomaffei.it; albert@arpafirenze.it

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- The naturalistic approach we chose presents several difficulties, given that human 42 43 communication cannot actually be observed "from outside": it is part of us and we 44 simultaneously belong to it; it is impossible to avoid interactions (as much as to say 45 "interference") with the studied sample, even though limiting them to the data collection. 46 There is a solution, though, for research purposes: an external point of view can be 47 simulated.
- 48 We designed such simulation starting from the consideration that a total exclusion 49 of personal/relational factors is illusory, even with unknown persons, given that it is 50 impossible to take under control their emotional involvement (their subjective reactions 51 to the survey in itself and to the survey conductors, independently of any specific 52 content). In such perspective, two problems had to be solved: the first was related to the 53 specific matter about which the sample would be committed; the second was related to 54 the survey modalities. To solve the first one, we have involved our sample members in a 55 real world-like communication case, totally external to their relationship with the survey 56 conductors. Following a precise sequence, through a specifically designed questionnaire, 57 we have submitted to participants the exchanged messages and the questions about their 58 interpretation.
- 59 About the second problem, we decided to try transforming the relational weak 60 point in a strong one. We concluded that, in the end, the most effective condition could 61 never be the illusory neutrality; rather, it could be the possibility to act far from any 62 stressor, to read messages without time pressure, to let sensations and emotions emerge

63 and to report them without any fear. In other words: a friendly, familiar environment, 64 with a known conductor (to de-potentiate the structural initial difficulties in human 65 relationships); a shared programming of the survey date and hour (to get the maximum 66 possible of comfort and relax); the possibility to answer free from any constrictions (for 67 this we mainly used questions with opened answers); the certainty about anonymity and 68 the non-evaluative purposes of the survey. At the same time, the consciousness of 69 participating to a serious work and the guarantee (for the research's purposes) of mostly 70 uniform survey modalities. As much as to say that our control on the survey mainly lied 71 on the reliability and the homogeneity of the relational system, rather than on the 72 (impossible) attempt to cut off the relational aspects from the survey.

73 PART I - Materials and Method

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75 SECTION 1 – The research guide-lines

- Object to be investigated: human communication, the process through which a 76 77 receiver attributes meaning to a message (the interpretation process, the way he/she 78 "understands" the incoming message).
- 79 Methodological approach: given that research on human communication (H.c. 80 from now on) has provided, about interpretation, abundance of theoretical hypotheses 81 along with still indefinite answers, it seems a good solution to re-start from a basic 82 exploration, which means from the **phenomenology** of specific events in a given 83 environment ("naturalistic" approach).
- 84 Action plan: (1) Submitting a real world-like case to the sample and requesting 85 the solution for a concrete problem related to it; (2) Observing respondents' reactions 86 through collecting their accounts; (3) Analyzing them. The case should be suitable to be 87 fully documented for the sample and its investigation should require a satisfyingly short 88 time.
- 89 On the basis of these premises, the GUIDE-LINES for our investigation are 90 established as it follows:
- 91 The research will be carried out through a qualitative and quantitative 92 (statistics-based) research.
- 93 The sample will be randomly composed by adult Italians, granted with High-94 school degree (or upper education levels) and regardless of their student or 95 employed (any employment) condition.

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- About education level, possible exceptions only for people whose literacy, joined with their life experience, allow them to understand without effort the case documentation [1].
- The sample will be challenged with an appropriately documented H.c. case and the individual reactions to it will be investigated through a questionnaire. The questionnaire will end posing a **concrete problem**, referred to the case, and requiring the respondent's solution.
- The case must be quasi-real, not a mere laboratory exercise. So, it will be based on real world cases, remaining as close as possible to reality at the same time avoiding any reference or hint to the original real situations. It will be a written communication case (to allow for a better control on the stimuli submitted to the participants), limited enough to be taken into account complete, unabridged and accomplished.
- The sample will collect about 100 individuals and the survey sessions must not exceed the 30 - 45 minute time range. The sessions may be attended individually or in groups, but the filling of the questionnaires will always be an individual act.
- All the survey sessions will take place under the control of a conductor, who will follow a standard procedure for presenting the texts about the case and the questions (in order to send homogeneous inputs to the sample).

117 SECTION 2 – The case: description and research's rationale

Introduction and rationale of the research. We examined, for our research, a 118 119 series of real-world cases of interaction some of the authors had dealt with in their 120 professional experience. The chosen cases were short enough to be easily handled and, at 121 the same time, they were fully representative of the real world's complexity. The case to 122 be created should have consisted of a realistic problem to challenge participants with; 123 moreover, it should have been fully documented from start to end, consisting of written 124 messages (e-mails) only and set inside an Italian corporation. We set up our case, we 125 named it "The employee and the architect" (as a tribute to the protagonist characters) and 126 we drew up the research protocol (see this Supporting Information, Section 3). 127 A complete description of the case can be found ahead in this present Section. In 128 extreme synthesis, we could say that it goes on as an exchange of written messages (5 e-129 mails in total) between the employee and the architect; we have submitted these 130 messages to the sample leading its members in a two-step work. In the first step, we have 131 asked the participants to carefully read the first three messages in sequence, then to 132 interpret them and the situation they outline; finally, to report and display the "concrete 133 elements" on which the interpretations were based. The rationale was: interpretation 134 process *in vivo* observation, quali-quantitative analysis and formulation of a hypothesis. 135 In the second step, we have submitted to participants the last two messages asking 136 them to read carefully the texts and then to solve a problem: the fourth message had been 137 submitted in two versions and the problem to solve was to indicate which of the two 138 could have produced the final answer (fifth message). The rationale was: exploring the

- 139 relationship between interpretation and following action and, through a quantitative 140 analysis, obtaining a first check of our hypothesis.
- 141 <u>Case details</u>. What follows is a complete description of the case used for our 142 research, from its start to its end.
- <u>TITLE</u>: We named the case "The employee and the architect", as a tribute to its 143 144 protagonist characters.

145 **CHARACTERS**:

- 146 XX – The employee. Female, line worker in an office of an Italian 147 corporation. Her office is undergoing works regarding the heating plant.
- 148 YY – The architect. Male, executive in charge of the works. He is a colleague 149 of XX, being himself an employee of the corporation. He has superior 150 position and duties, in respect to her, but he belongs to another branch and has 151 no hierarchic power on her.
- 152 Dr. KK and Dr. ZZ – Employee's (XX) colleagues, just mentioned by the architect in reference to the works in progress. 153
- 154 The Colleague – A shadow character in the interaction, as he never appears 155 during the action. The architect (YY) requests his advice about the text of one 156 message to be sent to XX.
- 157 NOTE: The employee and the architect do not know each other; this interaction is 158 their first contact, started and ended through e-mails only.
- 159 The STORY:

- Notice The texts of the messages that will be mentioned here below can be
 161 found in this Supporting Information, Section 4. The first three messages are presented
 162 under the form of a description in order to make the whole situation more
 163 comprehensible to the reader of this Supporting Information; however, they have been
 164 submitted to the sample as full-text documents.
- Prologue Works on the heating plant are coming to their end; XX (the 166 employee) starts the interaction by writing to the architect (Message #1). She requests an 167 inspection for quality control on the basis of generically claimed issues.
- 168 YY (the architect) replies immediately (Message #2) declaring, very briefly and 169 generically as well, that the situation has already been checked and lies under control.
- Several weeks later, XX writes again (Msg #3) insisting for an inspection and 171 indicating some specific issues at the basis of her claim. The tone of her message appears 172 to be hardened and one passage seems to contain a sort of threat.
- Action YY prepares a new reply (Msg #4, version "H", in short Msg #4/H) but 174 requests his colleague an advice, before sending it. The colleague accepts YY's request 175 and suggests for a different version (Msg #4, version "S", in short Msg #4/S).
- The architect accepts the advice; Msg #4/S is sent and the case ends with a last 177 reply of XX (Msg #5) declaring her satisfaction.
- NOTES: Because of a specific choice of YY's colleague, Msg #4/S bears the 179 same content of version "H" but is written in different form and its topics are put in a 180 different sequence. Although XX expresses her satisfaction, no inspection has been 181 carried out nor it has been requested any more.

182 SECTION 3 – *The research protocol*

Notice – The texts of the messages that will be mentioned here below can be
184 found in this Supporting Information, Section 4. The first three messages are presented
185 under the form of a description in order to make the whole situation more
186 comprehensible to the reader of this Supporting Information; however, they have been
187 submitted to the sample as full-text documents.

The protocol:

INTRODUCTION

- A case managed completely via e-mail, between an employee and a
 professional (the "architect"), has been set up. It concerns a problem inside an
 Italian corporation, lasting for one month and a half. The problem developed
 and was completely solved through 5 transactions (5 messages were
 exchanged, chronologically labelled from #1 to #5). The employee starts the
 first transaction (Message #1) and concludes the interaction with the fifth
 (Message #5).
- 2. During the action, the architect requests the opinion of a colleague of his; such request refers to a draft of the answer to Msg #3 spontaneously prepared by the architect (such draft is the first version of Msg #4, the "H" version). The colleague studies the case and proposes an alternative Msg #4 (the "S" version); the advice is accepted by the architect, the "S" version is sent and it produces the expected result, as the last reaction of the employee demonstrates (Msg #5).

3. The used case is based on real cases which some of the authors had dealt with; it remains as close as possible to reality at the same time avoiding any reference or hint to the original real situations.

The QUESTIONNAIRE and its MANAGEMENT

- 4. Anonymity of respondents will be fully guaranteed during either the survey (questionnaire collection) or the analysis (data elaboration). No personal data will be asked; information that is necessary for statistical purposes (age, gender, education level and employment) will be requested as aggregated through pre-defined bins only.
- 5. For a better representation in the questionnaire, the case has been divided into two parts. In the first part (corresponding to the "Prologue" of the case description, see this Supporting Information, Section 2), the first 3 messages are gathered, in the same order they result issued. The messages have been printed in sequence, in a single page (A4 dimension). The aim of this first part is to collect data about the interpretation process in general through a first set of questions. Such questions have been printed in another single A4 page (two opened questions, #1 and #2, the first sub-divided into three sub-questions).
 - 6. In the second part (corresponding to the "Action" of the case description, see this SI, Section 2), the two versions of Msg #4 (version "H" and version "S") are presented, in separate A4 pages. They are submitted to participants in sequence (not simultaneously) and the remaining questions are printed in a last A4 page. At first (Questions #3 and #4) the participants' opinions are

requested (separately) about the presumable effects of each version of Msg #4 on XX. In the end, after transcription of the very brief Msg #5 (the employee's last reply), participants are requested (Final Question) to indicate which version ("H" or "S"), in their opinion, has produced the effect showed in Message #5. The aim of this second part is to collect data about the relationship between the interpretations of the alternative messages and the action (the choice) that follows.

- 7. All the questions (or sub-questions, if present) have been divided into two parts: in the first one, the interpretation of the respondent about one specific subject is requested. In the second one, he/she is invited to "indicate the concrete elements (words, sentences, expressions etc...) on which your answer is based".
- 8. A special attention has been dedicated to the wording of the questions.

 Structural ambiguity of natural language implies the impossibility to formulate sentences with a univocal meaning, as the acknowledged Italian linguist De Mauro confirms [2,3]. Thus, any idea to pursue completely unambiguous formulations has been dropped. After the first careful formulation of the questions, two pilot-sessions will be set up for testing the questionnaire's suitability and gather indications about possible corrections. In addition, ex-post specific controls will discard from quantitative analysis all the possibly remained ambiguous cases.

9. Same attention has been dedicated to possible statistical distortion effects. For example the YY's Colleague opinion on Msg #4/H could influence respondents inducing some biases in their final choice; furthermore, there could be a possible precedence effect if the two versions of Msg #4 were submitted always in the same order. On these bases, the presentation of the two versions to the participants will be counterbalanced: all the participants will be informed that they are going to see, as first, the version spontaneously prepared by the "architect". The second (the "alternative" version) will be presented as suggested to him by one of his colleagues when asked for an advice. However, about one half of the sample will actually receive the two versions in that order (first Msg #4/H, then Msg #4/S); the remainder will receive them in the reverse order.

SURVEY and DATA COLLECTION:

10. All the conductors of the survey sessions (12 persons, in total) are members of the research group or in contact with it. Non-members will follow a brief training, led by one of the authors. All the conductors are committed to avoid expressing any comment about the message texts and concentrate on survey process conformity. They also have to assure that the process is clear for the participants and that they understand the structure of the case and the questions. In order to minimize the speech necessities for the conductors, a title page has been prepared; it contains a presentation of the survey and the main context information (see this SI, Section 4). The conductors are due to

invite participants to carefully read it. In the title page, the case will be presented as a real world case.

- 11. Informed consent will be requested verbally, after the reading of the title page.

 Written consent will not be collected for two reasons: the first is that it would imply the creation and management of a general database, paradoxically increasing, by its mere existence, the risks of accidental data diffusion. The second reason is that our data collection procedure (see also following points) anyway fully guarantees anonymity of participants. At the end of data collection, it will be impossible for everyone either to trace back participants starting from the filled questionnaires or to reconstruct the participants' list.
- 12. The 12 conductors will operate in a completely independent way and the participants will be enlisted by using their personal relationship network, extended until the third degree of separation. Enlisting requirements: adult condition (age>18 years), High-school degree at least. Exceptions about education level are accepted just for people whose literacy and life experience allow them to understand the case documentation without effort [1].
- 13. The conductors will collect questionnaires bereft of every personal indications (or even hints) related to participants. They will individually deliver the collected anonymous questionnaires to the authors' team and those documents will be randomly numbered and stored in a dedicated collection box. The research activities that will follow (data entry, in order to set up a digital data

290	base, and qualitative and quantitative analysis) will be performed on such		
291	anonymous database.		
292	NOTE: Once the protocol defined, two successive pilot sessions have been set up		
293 (7 and	5 people respectively) and these experiences helped to progressively refine the		
294 form of the questions, until the definitive shape was reached. The texts of the messages			
295 remained always unaltered. The following <u>Section 4</u> presents the questions in their final			
296 form.			

297 SECTION 4 – The questionnaire: message texts and questions (english translation) 298

Questionnaire summarizing form					
Part / Question #	n. of sub-quest.	n. of items	NOTES		
Title page			Presentation of the research and general instructions to participants		
Statistical information			Gender, age range, education level, employment		
Question #1	3	$2 \times 3 = 6$	Opened answers		
Question #2	2	1	Closed answer		
		2	Opened answers		
Question #3		2	Opened answers		
Question #4		2	Opened answers		
Final Question		1	Closed answer		
		1	Opened answer		
Total of 5 questions	Total of 8 quest. / sub-questions	Total of 15 items	Total of 2 closed answers and 13 opened answers		

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300

301 Title page

- 302 First of all, welcome and thank you for joining our research.
- 303 The e-mails on which this study is based will be submitted to you during the present
- 304 session. They have been exchanged in a real working environment and they refer to an
- 305 interaction that occurred in real life. They are presented in their original version; their
- 306 text has not been modified to be used for this research. Of course, all the elements that
- 307 specifically refer to persons, or to the real context, have been removed or appropriately
- 308 altered for privacy reasons.
- 309 Your task consists in reading the messages, respecting their submission sequence.
- 310 Please, read carefully and answer the questions intuitively, not analytically (although,
- 311 not excluding some personal reflections, if necessary). Underline the text, take notes or
- 312 look back at the message text, when deemed necessary, any time you need it.
- 313 All the questionnaires will be anonymous. We only ask you to give us general
- 314 information about yourself, here below, for merely statistical purposes (data
- 315 disaggregation).
- 316 [Questions followed on gender, age range, education level and employment (answers
- 317 requested through pre-defined bins only).]

318 319 Message #1 (description)

- 320 A female line-worker (the employee, named "XX") writes a 67 word e-mail to the
- 321 Project Account (the "architect") about the installation of the heating plant in her office.
- 322 She requires an inspection, claiming about "flaws" in the present state of the works.
- 323 Flaws are no better detailed. In her request, she declares that she is also speaking in the
- 324 name of some colleagues and she uses the expression: "we would be pleased if, at least
- 325 once, someone of our Corporation would come here and control...".

326

- 327 Message #2 (description)
- 328 The Project Account (a male professional, the "architect", named "YY") answers to XX.
- 329 In his message (which is brief, 48 words) he declares regularity in the Project progress,
- 330 ending with: "at the moment, the progress substantially complies with the chronogram".

331

- 332 Message #3 (description)
- 333 XX replies to YY's answer, declaring herself totally unsatisfied. Her message (136
- 334 words) sports two main features: (i) some minor flaws are listed; (ii) she expresses what
- 335 it looks like an actual threat against YY, in the case he would not take measures
- 336 regarding to the presented problem (she makes a specific reference to a hypothetic
- 337 "waste of public money", as the Project funding involved some public sources).

- 339 QUESTIONS #1 and #2, about Messages #1, #2, #3 (full text)
- 340 1 * Please, read Messages #1 and #2 and answer to the following questions:
- 341 a What do you think is going on, between XX and YY?
- 342 Could you indicate the concrete elements (words, sentences, expressions etc...) on
- 343 which your answer is based?
- 344 b In particular, how would you define XX's position during the interaction?
- 345 Could you indicate the concrete elements (words, sentences, expressions etc...) on
- 346 which your answer is based?
- 347 c How would you define, then, YY's position during the interaction?
- 348 Could you indicate the concrete elements (words, sentences, expressions etc...) on
- 349 which your answer is based?
- 350 2 * Please, read Message #3 and answer to the following questions:
- 351 Do you think the attitude of XX towards YY has changed, in respect to Message #1?
- 352 [*YES/NO*]
- 353 If it has, how would you define the new XX's position, in respect to YY?
- 354 Could you indicate the concrete elements (words, sentences, expressions etc...) on
- 355 which your answer is based?

356				
357	Message #4 / "H" version (the spontaneous version by the architect, full text)			
358	<u>Block #1</u>			
359	From: YY (Project Account for the heating plant works)			
360	To: XX (Employee in one of the offices affected by the works)			
361	Cc: ZZ (Office referent for the works)			
362 363	Sent: [date] [hour] Subject: R: heating plant			
364 365	Dear Mrs. XX,			
366	Block #2			
367 368 369	I want to premise that, for the sake of a wise management of the work process, intended to optimize the utilization of our Corporation resources (exactly, in order to avoid wasting public money):			
370 371	- Before Project start, I asked the Director of your structure (B wing of the building), Dr. KK, to put a specific person in charge of controlling the work's progress;			
372	- As far as I am concerned, the indicated person is, and will remain, Dr. ZZ;			
373	- Dr. ZZ carefully planned the project development steps with us;			
374 375	- Each office, situated in the B wing of the building, has been already supplied with heating systems (hardware), fully complying with the timetable agreed with Mrs. ZZ;			
376	- The heating plant is now working, even though in provisional mode.			
377 378 379	I do recommend you to send any communication, concerning the mentioned Project, to the specific person in charge of controlling, in order to avoid (as already happened) message exchange with personnel that is not directly and formally involved within the process.			
380	Block #3			
381 382 383 384	However, I inform you that, at the moment, the works under discussion have been suspended, in order to enable the provisioning of the plant-control software. It will manage automatically the heating system in the offices, including yours, regulating the warm air diffusion (in order, as said above, to reduce any waste of money).			
385 386 387	As soon as the software will be installed by the contractor, the works will come to end. By the way, in this phase they should not affect the rooms situated in the B wing of the building at all, but only the thermo station.			
388 389 390	All quantitative and qualitative controls, requested by the CHK form [formal inspection document], will be carried out after the end of the works and just before their compliance to fixed quality standards will be attested, as prescribed by the current rules.			
391 <u>Block #4</u>				
392 393 394	This said, I have found your objections very interesting. For this reason, once the real existence of the problems you have marked will be assessed, I will certainly solve them as a part of my duty.			

Block #5

396	Yours sincerely
397	The Project Account
398	Arch. YY - [Corporation branch]
399	
400	
401	N
	Message #4 / "S" version (the version suggested by YY's colleague, full text)
	Block #1
404	From: YY (Project Account for heating plant works)
405	To: XX (Employee in one of the offices affected by the works)
406	Cc: ZZ (Office referent for the works)
407 408	Sent: [date] [hour]
409	Subject: R: heating plant
410	Dear Mrs. XX,
411	<u>Block #2</u>
412	I remember your last message, which I have already answered, and now I really thank you for
413	this new one. In fact, we do believe that the attention of our colleagues, on field operating
414	with structures and plants we provide, is fundamental to complete our tasks at best.
	Block #3
416	In order to optimize our contribution, I have been since the beginning asking for a unique
417 418	person in charge of controlling the works, accounted for your office's building. This person is Doctor ZZ (I might have already mentioned her in my previous answer even though, at
419	present time, I am not certain about this). Her duty is to collect all the observations expressed
420	by the staff about the work in progress, then to send it directly to my office. I think you
421 422	already know her and she is going to receive a copy of the present message. I thought this
	would make communication easier.
	Block #4
424 425	Concerning your request, you can be certain that, so far, our Project has been developed by following all the technical and formal standards prescribed by the current rules. In addition, I
426	inform you that the works are not yet concluded and final checks (along with possible
427	inspections) are about to be carefully planned. Please, inform your colleagues about the
428	existence of a person in charge of control and do not hesitate to contact her in the case of
429	further observations or possible problems. As I said, she will return your indications to us;
430	this way, I assure you they will not be ignored.
	Block #5
432	Best regards
433	The Project Account
434	Arch. YY - [Corporation branch]
435	

437 QUESTIONS #3 and #4, about Messages #4/H and #4/S (full text)
438 Premise : YY prepares Message #4 as an answer to Message #3 (received from XX). 439 Before he sends it, he consults one of his colleagues, who advises him against sending 440 and suggests a different text (alternative Message #4).
441 3 * Please, read Message #4 and answer to the following questions:
442 <u>In your opinion</u> , what effect will this version produce on XX?
443 Could you indicate the concrete elements (words, sentences, expressions etc) on which 444 your answer is based?
445 4 * Please, read alternative Message #4 and answer to the following questions:
446 In your opinion, what effect will the alternative version produce on XX?
447 Could you indicate the concrete elements (words, sentences, expressions etc) on which 448 your answer is based? 449
450
451 452
453 Message #5 (full text)
454 Thank you very much for your interest and for the information. That was very kind of 455 you and your answer was exhaustive.
456 Best regards
457 XX
458
459
460 FINAL QUESTION
461 Consider that Message #5 was the final reaction of XX and answer the following 462 questions:
463 In your opinion, which version of Message #4 did XX receive?
464 [YY's draft / Alternative]
465 Could you indicate the concrete elements (words, sentences, expressions etc) on which 466 your answer is based? 467

468 SECTION 5 – Case structure and communication critical points

Focusing on the communication aspects of our case, we can synthesize its
470 structure as in Table S1, which accounts also for the critical points of the interaction
471 between the employee and the architect. Such scheme can be translated in plain language
472 as it follows: apparently, the employee (working for the architect's same corporation but
473 belonging to a different branch, with no executive commission) was complaining,
474 through Message #1, about the quality of the heating plant installation. However, some
475 lacks of matter (for example the claimed "flaws" were not specified) suggest to figure out
476 possible different reasons.

The architect's first answer (Message #2) can be interpreted as an attempt to 478 quickly end the interaction; however, the reaction of the employee (Message #3) 479 demonstrates the failure of this tactic. It is particularly worth quoting a possible threat 480 contained in that message, considering that XX literally writes: "if the work was made at 481 my home... there's a matter of public money...". She was hinting to the fact that the 482 Project funding involved some public sources. All this should arouse alarm and caution.

On the contrary, the architect's spontaneous reaction (Message #4, "H" version, 484 in short Msg #4/H) follows the escalation initiated by the employee: he squabbles, with a 485 repeated retaliation, about the question of money; he expresses doubts about the fondness 486 of the employee's statements ("once the real existence of the problems you have marked 487 will be assessed, I will certainly solve them..."); he substantially refuses to establish any 488 relationship with the employee, putting just a hint of appreciation at the end of the 489 message ("This said, I have found your objections very interesting..."), at the same time

490 counterbalancing it with his doubts. The most probable result should be an escalation of 491 the conflict.

Now, if we analyse in deep Msg #4/H's structure, we can detect in it five main 493 content blocks (see this SI, Section 4, where they are marked along with Message #4/H 494 text). Msg #4/S maintains the same content while its written form is reviewed and its 495 sequence modified. In practice, the "alternative message" #4/S presents the same content 496 blocks of Msg #4/H (see this SI, Section 4, where they are marked along with Message 497 #4/S text) in a different order and under a new written form. We have synthesized a 498 comparison of the two structures in Table S2.

The substantial difference between version "H" and version "S" of Message #4 is 500 founded on the diverse approach to the arising conflict: while the spontaneous reaction of YY approached it through a direct confrontation, the alternative version maintains the 502 same information content but approaches the relation with XX in terms of welcome and 503 acknowledgement.

505 PART II - The collected data

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507 SECTION 6 – *The sample*

508 Our work was aimed to explore the process of message interpretation, sharing the 509 general assumption that the communication process is uniform all across humankind. We 510 mean that human communication, although it appears extremely variable on its 511 expressions, must however stem from a unique base of fundamental factors and 512 processes. Something like a limb in a heterogeneous sample of humans: its aspect looks 513 very different in function of sex, age, size, health and so on; nonetheless, it remains based 514 on a unique anatomical and functional scheme. For this, the sample's representativeness 515 with respect to the Italian people was not critical. Thus, we decided to increase, as much 516 as possible, the amount of participants while easing the sampling process (see research 517 protocol, in this Supporting Information, Section 3, points j.l). 518 We recruited 102 participants in our sample, whose characteristics are displayed 519 in Tables S3-S5. The total sample composition (Table S3) shows an exceeding rate of 520 women vs. men and of Graduates/Post-graduates vs. High-school degree granted 521 members (columns "Education", "Gr" bin vs. "Dg" bin; people granted with Elementary 522 degree are inessential [1]). We also highlight the high rate of students and unemployed 523 vs. employed members (columns "Employment", "E" and "F" bins vs. others). For these 524 reasons, even if sample statistical analysis is less relevant in our work, we have drawn 525 more balanced sub-samples from the total sample. The statistical distribution results,

526 observed on the total sample, have been verified on sub-samples every time it turned out

527 necessary. The first sub-sample ("AGE", <u>Table S4</u>) is exclusively composed by people 528 over 29 years-old (age bins B, C and D, excluding A; in total, 60 members). The second 529 one ("EMPLOYMENT", <u>Table S5</u>) is exclusively composed by employed people (A to 530 D bins, excluding E and F, that is for students and unemployed people; in total, 65 531 members). Our intention was to balance the weight of the younger part of the sample, 532 over-crowded with female members (either graduates or students).

SECTION 7 – *The harvest*

The collected materials: In this section we present in detail, at first, an assessment satisfactory about the amount of the collected materials ("how much" the respondents have written in their answers, the answers' "physical amount"). As second we give some information about the quantitative aspects involved in the analysis, in terms of data processing and storing.

Starting data analysis, we firstly transcribed into a .xls file the filled 540 questionnaires: 1 tab containing 8 data-sheets, one for each main question or data source 541 (information for disaggregating data, Questions #1-a, #1-b, #1-c, #2, #3, #4, Final 542 question). Secondly, we reviewed transcriptions with regard to text correction (typos) and 543 we harmonized data entries (different operators had produced little differences in 544 managing spaces near punctuation marks and in using suspension points, abbreviations 545 and similar details). At this point, it was possible to measure the collected data amount:

- Paper archive: each participant provided a 6 pages long document. Four pages contained the information materials, specifically title page and the transcriptions of the messages. In a few cases, on those pages, respondents had written very short notes and underlined some words. The other two pages contained the answers, which are the actual data source of our research. In conclusion, we collected $102 \times 2 = 204$ handwritten pages containing data to be processed.
- Digital archives: they contain the transcriptions of opened answers (harmonized text), that returned totals of 16,094 words, corresponding to 89,685 characters (spaces excluded) or 104,200 characters (spaces included).

- In order to let the readers estimate the amounts better, we calculated that using Times New Roman font in 12 size characters, space 1, with a "letter" page format and 1" for all margins, the opened answer texts should be occupying about 26.7 to 27.4 pages (range of 3,800-3,900 characters per page, spaces included, text only, no picture, table or main titles).
- We also calculated the filling rate of the questionnaires (opened answers) in the following way: we excluded the two opened items of Question #2 (answering the opened part of the question was under condition and it was performed by just 60% of the sample); then, we recorded 27 unanswered items on an expected total of 102 participants x 11 items = 1,122 (see SI, Section 4, questionnaire summarizing form). The filling rate is: (1,122-27)/1,122x100 = 97.6%.
 - This last information says which percentage of the opened questions received an answer but says nothing about the length of those answers. We can calculate an average length in two ways: the first is dividing the total words by the amount of participants and, then, by the amount of the opened items. The result is 16,094/102/13=12.1 words per respondent per item (answers to Question #2 are included in the calculation). In order to appreciate this value better we can follow the second way: one page, of the previously approximated 27, has typically 44 lines, which means an average of about 1 typed line per respondent per item (44x27/13=91.4, answers to Question #2 included). That is up to

- 576 90 characters (spaces included) or about 10 to 15 words; a satisfactory result, 577 about the accomplishment of their commission by the sample members.
- About the closed answers, only the <u>Final question</u> is relevant (for the closed part of <u>Question #2</u>, see previous points), and 101 out of 102 answered to it.

In the end: survey returned a good harvest, equal to our expectations. The next 581 step of the processing was to store data into a system of files, made up as it follows:

- Ten .doc files, divided into two groups. The first group has 8 files; each one of the first seven files contains the transcription of a different answer (from Question #1-a to Final question, harmonized texts) in a shape that make such content suitable for operations more difficultly available on electronic data sheets (for example certain investigations about the texts); the eighth file contains a collection of particularly interesting examples. The second group contains two service files. Total used memory: 1.22 Mb.
- Twenty-one .xls files: one of them is the formerly mentioned archive of transcriptions (1 file, 8 data-sheets); the remaining are 20 files containing the data processing documentation and results (included those explorative analyses that have been later abandoned). Inside these files, there is a total of 142 different data-sheets; total used memory: 4.50 Mbytes.
- Intermediate processing and support materials (including some publications available online). Total used memory (including the previously mentioned files): 388 Mbytes (683 files, organized into 61 folders).

598 technical-theoretical questions related to answer interpretation a – Answers' general features and compliance with research requirements. A first 599 600 noticeable aspect is that it is not possible, in any of the answers, to find overt doubts, 601 uncertainty statements, declarations of impossibility to answer, indications of equivalent 602 alternatives [4]. For each respondent, his/her own interpretation seems to be **the only** 603 available option. This happens in spite of the fact that about 27% of the total sample 604 describes the effects of Messages #4/H and #4/S as similar: for an 18% (18 people) they 605 both will solve or ease the contrast; for a 9% (9 people) they both will escalate the 606 contrast (see manuscript Table 8, "Total sample" columns, H+/S+ and H-/S- cells). This 607 observation confirms that the answers are spontaneous and that our survey collected 608 subjective perceptions, instead of elaborated rational reflections. That is what we aimed 609 to, while following the research guide-lines and protocol (see this SI, <u>Sections 1</u> and <u>3</u>) 610 [<u>5</u>]. 611 Another important point is that no one of the sample members uses any technical 612 word or expression. About this, it is worth considering how participants reacted to the 613 two points which, from a communication slant, can be rated as the most critical: the 614 possible threat XX expressed in Message #3; the squabbling and the personal attack by 615 YY against XX in Message #4/H (see this SI Section 5 and Table S1). Even if some 616 participants refer to these passages in their answers, none stresses them as particularly

617 critical and almost none labels them as "threat" or "personal attack". Finally, while

618 examining the answers to Questions #3 and #4 and to the Final Question, we found that

597 SECTION 8 – Data quality check: compliance with research requirements and

619 about one fourth of the sample (average for the three questions 26.5%, range 16% - 36%) 620 overtly stated, at least once, the impossibility to analytically answer to the second part of 621 the questions (which requested to point out the "concrete elements" that induced the 622 answer to the first part). These respondents described their answers to the first part of the 623 questions as the result of "a general impression", "a sensation/a perception"; in other 624 cases they presented such answers as "an opinion drawn from the whole message" or 625 something similar. These observations confirm the general naïve condition of the sample 626 about human communication (another feature requested by the research plan).

- b <u>About the questionnaire interpretation</u>. Interpretation problems, related to the questionnaires, are essentially of two kinds: interpretation of the questionnaire questions by the sample; interpretation of the sample answers by the research team. Following here, two selected examples of the first kind are presented:
- 1. Question #1 ("What do you think is going on, between XX and YY?") It has been interpreted, in certain cases, in terms of interpersonal relationship, in other cases in terms of organizational position or professional profile.
 - 2. Questions #1 and #2, first part (each containing indications for focusing on a specific message, out of the first three) Actually, a large part of the sample did not make any distinction and answered discarding indications and simultaneously referring to all the three messages.
- 638 Here, two examples of the second kind:
- 3. Question #1 ("What do you think is going on, between XX and YY?") In one of the answers, Message #2 is defined as "bureaucratic"; although, it is

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impossible to understand if this adjective is used with a technical meaning (referring to a normal interaction inside an office) or with a relational one (defining a conflict, with YY using formality to resist to XX's action). We found other similar cases.

4. Question #2, first part (requesting if, after comparing Message #3 with Message #1, the respondent considers XX's position as "changed") – It is interesting to know that 41 people (40% of the sample) answered "NO – Not changed", and 61 (60%) answered "YES – It has changed". These answers are nonetheless unsuitable for deep quantitative analysis because of the different interpretation of the word "changed". For example the answer "YES" (the position has changed) may correspond to the actual perception of an escalated interaction; however, it may also be simply connected with attention on isolated linguistic elements (like some technical terms, introduced in Message #3 but absent in #1). The answer "NO" (no change detected) could mean that the respondent does not actually perceive any difference; it may also indicate that the differences, clearly detected relationship-wise, are nevertheless considered scarcely effective on the respective organizational positions of XX and YY.

As stated in the research protocol (previous <u>Section 3</u>, point h.), given the 660 impossibility of a completely unambiguous formulation of concepts in natural language, 661 we ex-post discarded from quantitative analyses all the unsuitable data.

662 SECTION 9 – Data quality check: analysis of the collected data distribution

In order to check the existence of possible imbalances in the collected data, we 664 explored the distribution of the answers' texts with respect to the questionnaire's 665 questions and to the respondents. We quantified the texts through the amount of words 666 and characters contained in the questionnaires. We remind that each question/sub-667 question was divided into two items; when we refer to "totals", we mean that the 668 presented data are the result of summing values related to the "strict" answer (first item, 669 i.e. first part of the question) and values related to the indicated "concrete elements" 670 (second item, i.e. second part of the question).

a – <u>Text amounts' distribution with respect to items</u>. The results of this first 672 analysis are displayed in <u>Table S6</u> and <u>Fig. S1</u>. <u>Table S6</u> shows totals and some statistical 673 indexes with regards to the distribution of the answers' texts on questions/sub-questions. 674 Data referred to all the answers (left part) are compared with those excluding <u>Question</u> 675 <u>#2</u> (right part). The reason of such exclusion: answering was under condition and 676 <u>Question #2</u> was answered by only a part of the sample. Besides that, we observe that the 677 calculated means of the table provide an incomplete information (no hint about the 678 variation shape); for this reason, we displayed, through the histogram of <u>Fig. S1</u>, the 679 percent distribution of the texts' amounts (in terms of words and characters, <u>Question #2</u> 680 excluded) with respect to the items. It shows evident lower levels for <u>Questions #1-b</u> and 681 <u>#1-c</u> (whose minimum, all the same, is around 7%); the rest of the values seesaws 682 between 9% and 11% (the general percent mean, per item, is 100:11=9.1%, see <u>Table S6</u>, 683 right part, "% Gen. means per item" row).

About this, we must consider that several respondents answered in short to <u>sub-</u>685 <u>questions #1-b</u> and <u>#1-c</u>, just indicating some references to the previous sub-question 686 (<u>#1-a</u>, indeed having the highest values). Thus we prefer to use, for comparing different 687 items, values referring to the percent mean of the three sub-questions of <u>Question #1</u>, that 688 is 8.3% both for words and for characters (SI = spaces included). On the whole, we have 689 a range oscillating between 8.3% and 11.1% (for words) or 11.3% (for characters). No 690 significant difference is recordable and the distribution of the answers' texts with respect 691 to the questionnaire's items can be assessed as satisfactorily balanced. Actually, no 692 question at all has been neglected by respondents.

b – *Text amounts' distribution with respect to participants*. The results of this 694 analysis are displayed in Table S7 and Fig. S2 and S3. Table S7 shows totals and some 695 statistical indexes referred to the provided amounts of text (in terms of words and 696 characters, Question #2 excluded); indexes are calculated on participants. Data are 697 displayed separating values referred to the first item of the questions ("strict" answer) 698 from those referred to the second one ("concrete elements"). In this case also, the indexes 699 of the table provide a limited information (no hint about the variation shape); for this 700 reason, we drew the histograms that show the distribution. Participants have been 701 grouped in bins referred to words (30-words bins, Fig. S2) and characters (200-characters 702 bins, Fig. S3, SI=spaces included) amounts. The histograms' shape has features 703 comparable to a bell-curve, even though its form is not perfect (see statistical details in 704 the figures' captions). Data uphold the idea of differences mainly due to spontaneous

705 random variations and lead to the conclusion that also such distribution can be considered 706 satisfactorily regular (no participants seem to have neglected their commission).

707 **PART III - Added materials** 708

709 SECTION 10 – The "block preference" analysis

The second indicator we have used (block preference indicator), was built starting 710 711 from the consideration (this SI, <u>Sections 4</u> and <u>5</u>) that Message "H" and Message "S" 712 contain the same content blocks (it was an overt decision of YY's "collegue") differing 713 for the order of presentation and for linguistic form. Each block is identified as 714 concerning a given content (see this SI, Section 5 and Table S2). Then, we investigated 715 about possible differences regarding the attention paid by "H" and "S" choosers to 716 different blocks, while answering to Questions #3 and #4 (predictions of the messages' 717 effects on XX). Our goal was to explore finer characteristics in the choice process. 718 Specifically, we intended to verify if the different choices ("H" or "S") were linked to 719 differences in focusing on the blocks or in detecting diverse characteristics inside same 720 blocks. In the first case the different contents, ascribable to the different blocks, would 721 lead the process; in the second case, other factors would play a critical role. 722 To build the block preference indicator we, at first, examined the answers to 723 Questions #3 and #4 and highlighted all the direct references to Message "H" and 724 Message "S" texts (i.e. sentences in quotation marks or undoubtedly referring to clearly 725 identifiable passages). Then we associated them to the text blocks. Results from this part 726 of the analysis are displayed in <u>Tables S8-S11 [6]</u>; they contain clear indications about 727 the message blocks which the attention of participants has fallen upon. We will base our 728 analysis on Table S10 data; blocks are displayed along with the texts of Message #4/H 729 and Message #4/S; a comparison among them is presented in Table S2.

730 Regarding Message "H" blocks, both "H" and "S" choosers express the same 731 preference, as their attention is mainly attracted by <u>Block #2</u> (from both the versions of 732 Msg #4) in a similar proportion: (13+9)/(21+11), about 70%, for "H" choosers; (10+43)/ 733 (17+65), about 65%, for "S" choosers. Conversely, with regard to Message "S", "H" and 734 "S" choosers split. Indeed, "H" choosers focus on Blocks #2 and #3 (converted numbers 735 [7]) in a large majority: (6+10+7+3)/(18+14), more than 80%. "S" choosers focus on 736 Blocks #3 and #4 in a minor but still strongly prevailing proportion: (34+3+35+0)/ 737 (95+7), a little more than 70%. The principal differences regarding Block #2 and Block 738 <u>#4</u> are the following: <u>Block #2</u> is the paragraph through which YY refuses to engage 739 XX's request and re-addresses XX to another account (ZZ) inside the organisation. Both 740 "H" and "S" choosers give Block #2 a prevalent attention, when they read it in Message 741 "H". However, when they read it in Message "S", we see that "H" choosers maintain 742 their preference (with a little shift towards <u>Block #3</u>, containing specific information) 743 while "S" choosers pay the minimum of attention to it (18+4=22 references) moving 744 towards Block #3 and #4 (34+3=37 and 35+0=35 references respectively). 745 Block #4 is the paragraph expressing YY's relational acceptance toward XX; in 746 Message "H", it is placed at the end, immediately before the form of salute, and is 747 scarcely considered by both sides (even if, as usual, in different proportions). Reading it 748 in Message "S" (where it comes as second, immediately after the form of address), we 749 see that "H" choosers confirm their neglecting while "S" choosers pay great attention to 750 it. In other words, "H" choosers give constantly their preference to YY's refuting and, a 751 little less, to information providing. "S" choosers vary their preferences according to the

752 message and they seem to attribute importance to the relational block just in Message 753 "S", even if it is present in Message "H", too.

What does this result mean? Data seemed to be insufficient for drawing reliable 755 conclusions; for this reason, we returned to the answers' texts (answers to Questions #3 756 and #4, in particular the second item, "concrete elements") and discovered what it 757 follows. First, the apparent convergence of "H" and "S" choosers behaviour, about their 758 taking into account Message "H" (both choosers preferentially focused on Block #2), is 759 not real: almost all "S" choosers rate the impact of Block #2 from Message "H" on XX-760 YY conflict as negative **for relational reasons**. It is notable that their answers are about 761 an information that YY gives to XX (Dr. ZZ assuming a role of account) but they refer 762 quite exclusively to the relational impact of the passage. In this way, choosers behave 763 homogeneously and coherently select Message "S".

Conversely, "H" choosers clearly split: on one hand, eleven of them (out of 26, 765 42%, see manuscript Table 11, left column, L and LM rows) express, on Message "H", 766 the same negative rating of "S" choosers (XX-YY conflict escalation) and for the same 767 reasons (relation aspects), too. Nevertheless, they eventually choose that same Message "68 "H" providing various justifications for their choice. On the other hand, 15 of them (58%, 769 see manuscript Table 11, left column, MG and G rows) rate the impact of Message "H" 770 on XX-YY conflict as positive. Coherently, they choose that message but indicate final 771 effects of different nature: XX should be "calmed", because of the great quantity of 772 information received. However, she could also be sorted out, just stopped despite her 773 dissatisfaction. These 15 people behave as if they were thinking that information is what

774 it matters and they pay little attention to relational aspects. Such situation reminds the 775 differences between "H" and "S" choosers' behaviour highlighted by coherence indicator 776 analysis (specifically, the sample distribution with respect to coherence level).

We successively noted that a minority of "S" choosers, while evaluating Message 777 778 "H", focused on Block #4 (the relational acceptance passage) and rated it, 779 overwhelmingly, negative (4+15=19, see Table S10, Block #4 row, column "S" 780 choosers/"H" evaluation). Some of them, for example, justify their evaluation 781 interpreting that YY overtly declares that he does not trust XX, given that he says he 782 reserves himself to check for the real existence of the problem, before intervening [8]. 783 They do not pay any importance to the formal relational acceptance that Block #4 784 contains. Moving to Message "S" evaluations, we face apparent divergent behaviours, as 785 "H" and "S" choosers focus on different blocks; nevertheless, this appearance covers an 786 actual continuity with what we observed about the evaluations on Message "H". For 787 example, "S" choosers that focus on Message "S"/Block #4 (we remind this is the 788 "converted" number, corresponding to the original #2, see Table S2) express positive 789 rates for relational reasons; quite homogeneously, they hold this block responsible for 790 solving the conflict and they constantly describe the effects of Message "S" (and Block 791 #4 in particular) with words like "acceptance", "XX satisfaction", "reassuring", "XX will 792 feel listened to", "acknowledgement", "appreciation". Conversely, "H" chooser 793 behaviour, once again, is split: those who, regardless of their choice, rate "S" effects as 794 positive (9+5=14, see manuscript Table 11, left column, L and MG rows), express their 795 evaluations in terms which are very similar to those of "S" choosers: "satisfaction" of

796 XX, "reassuring", "calming", "attention given" and so on. Twelve of them, who deem 797 "S" as negative (2+10=12, see manuscript Table 11, left column, LM and G rows), give 798 the maximum of importance to XX notifying the necessity to refer to a different person 799 (Dr. ZZ). Only in 2 or 3 cases we found generic comments about the excessively 800 "diplomatic" form of Message "S".

All these observations summed up, our investigation through the second indicator 802 helps us to answer the initial question: if the choice between Message "H" and Message 803 "S" can be linked to differences in block focusing or to different characteristics detected 804 inside same focused blocks. Indeed, even though our observations seem to be pointing to 805 the second option, we got the impression that such formulation could result weak and 806 that the observed processes cannot be restrained to such dichotomy. Then, how can we 807 explain our observations? The picture can be synthesized as it follows:

- When predicting Message "H" effects, both "H" and "S" choosers mainly focus on the same block but they are attracted by different characteristics: "H" choosers by its information content; "S" choosers by its relational impact.
- When predicting Message "S" effects, "H" and "S" choosers mainly focus on different blocks. However, their answers show that such behaviour is linked to the attraction they feel towards the same characteristics that stimulated them in the previous case: "H" choosers insist on privileging information content (and Blocks #2 and #3, that concentrate the information); "S" choosers shift towards new blocks that make evident the relational care of YY with regards to XX (Blocks #3 and #4).

818 One last aspect to be cleared: the second point contains, besides the specific 819 divergence in focusing, a new example of the first case, i.e. the same focusing joined to 820 attention paid to different characteristics. Actually, both "H and "S" choosers focus also 821 on <u>Block #3</u> (converted number) of <u>Message "S"</u>, that is labelled as "Information" in 822 Table S2. However, even though that block undoubtedly contains information, the two 823 versions present it in different ways. Confronting the texts, we can easily verify that the 824 "H" version bears just technical and formal contents while the "S" version pays attention 825 to present the information as a "service" for the colleagues. Evidently, respondents 826 jointly take such aspect into account but (as usual) they interpret it in different ways. As 827 a matter of fact, "H" choosers mainly highlight the **information** that "the works are not 828 yet concluded and final checks... are about to be carefully planned"; "S" choosers mainly 829 emphasize the **reassurance** (a purely relational aspect) that YY expressly gives to XX 830 with his words "I assure you [that your indications] will not be ignored". 831 In synthesis, what we found is that, about focusing on blocks, the differences, as 832 well as the convergence, are apparent and the attention of participants seems to be 833 attracted by those blocks that can "resound" something they are possibly looking for, 834 something pre-existent. What drives the focusing is not the mere information content of 835 the blocks. Once more, we have observed nothing else than a "disassembling" operation 836 (see manuscript for details). In doing so, we have collected two examples of what kind of

837 "pre-existing blueprints" (in some way present in the actors' central nervous system) can

838 orient focusing and explain the different approaches employed by "H" or "S" choosers:

839 the first mainly focus on content or context aspects; the second ones mainly focus on 840 relational aspects.

842 References

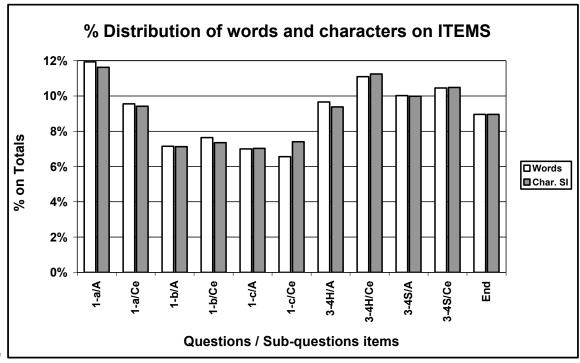
- 843 1. Actually only 4 participants, out of the 102 composing the sample, had
- qualifications inferior than a High-school degree.
- 845 2. De Mauro says [3] that natural language is "equivocal" in etymological sense, from
- Latin *aeque vocare* (to name in the same way). That is: a same word can be used to
- refer to different things; different words can be used to indicate the same thing.
- 848 3. De Mauro T. 2003 (1980). Guida all'uso delle parole. Roma: Editori Riuniti.
- 849 4. Just 1 participant (out of 102) declares some uncertainties in his final choice,
- writing that the final effect (as it appears in Message #5) could be obtained both
- with Message "H" and Message "S". Nevertheless, while answering to the other
- questions, his statements are in all similar to the other participants' ones.
- 853 5. Exactly in order to facilitate such result, in the actual survey sessions (lasting range:
- 20 to 45 minutes) no discussion about the answers was allowed before the filled in
- questionnaires had been collected by the conductor; in addition, no further contact
- with the questionnaires was permitted after the sessions were over.
- 857 6. Tables S8 and S9 display data with regards to the amount of **references** to each
- block expressed by participants. In <u>Table S8</u>, totals for each block and each
- evaluated message (as well as general totals) can be higher than the people amount,
- given that each person can express more than one references. <u>Tables S10</u> and <u>S11</u>
- display data with regards to the amount of **participants** that referred to each block.
- In Table S10, totals for each block and each evaluated message must be inferior to

863		the participants' amount; however, the general totals can be superior, given that
864		each person could refer to more than one block.
865	7.	We remind that Message "S" maintained the same content of Message "H", and
866		that content was divided into analogous text blocks, but varying their sequence
867		(besides their written form). For reliable comparing, it has been necessary to give
868		each "S" block a "converted number", that is the same of the correspondent block
869		in Message "H" (see this SI, Section 5, and Table S2, extreme right column). From
870		now on, until express notice, all the numeric references to "S" blocks must be
871		intended as converted numbers.
872	8.	We observe that, as widely discussed in the manuscript (specially in the Discussion
873		section), the question is not linked to the information per se, nor it regards YY's
874		right to control. The question is "the fact that" YY decided to overtly declare, in a
875		certain point of his message and under a certain form, his doubt and his intentions.
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SUPPORTING INFORMATION Figures

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879 880

881 Figure S1: Percent distribution of words and characters on question items (Question

882 **#2** excluded).

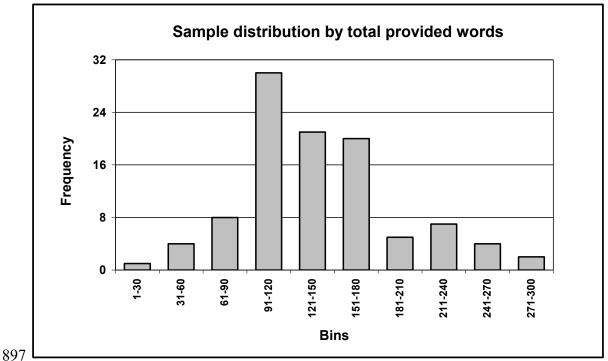
[Legend: <u>1-a</u>, <u>1-b</u>, <u>1-c</u> = Answers to sub-questions of <u>Question #1</u>; 3-4/H, 3-4/S = Answers to <u>Questions #3</u> and <u>#4</u> referred to <u>Message "H"</u> or to <u>Message "S"</u>; End = Final question. A = "Strict" answers; Ce = Concrete elements; Char.SI = Characters

(spaces included)]

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This histogram shows that the words' and characters' amounts resulting from the respondents' answers vary, with respect to items, from 6.6% to 11.9% (words) and from 7.0% to 11.6% (characters, spaces included). The range reduces to 8.3%-11.1% (words)

and 8.3%-11.3% (characters SI) if the three sub-questions of Question #1 are grouped together and their mean is considered (see text for details). The amounts appear to be distributed in a satisfactorily balanced shape, across the questions of the questionnaire (no statistical significance recorded). On the whole, no item seems to be definitely privileged, or neglected, by the participants.



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Figure S2: Sample distribution with respect to total provided words (Question #2 excluded).

901 The histogram shows how the sample is distributed with respect to the amount of words
902 provided by participants. The participants are grouped in 30-words bins. Totals ("strict"
903 answers + concrete elements indications) are displayed. The main statistical indexes of
904 the distribution are the following (SD = Standard deviation; CV(%) = percent Coefficient
905 of Variation):

906 Mean = 138.5; Median = 131; Mode = 142; SD = 53.7; CV(%) = 38.75%. 907 Skewness = 1.15; Kurtosis = 0.09.

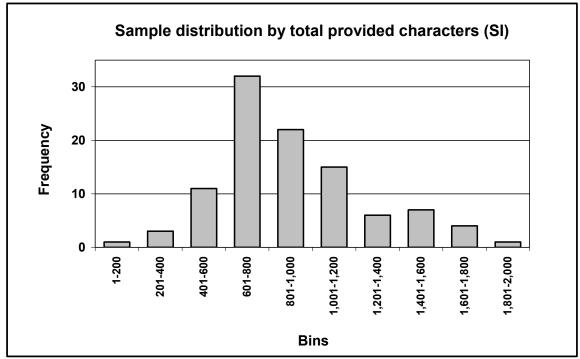


Figure S3: Sample distribution with respect to total provided characters (spaces included, Question #2 excluded).

The histogram shows how the sample is distributed with respect to the amount of characters (spaces included) provided by participants. The participants are grouped in 200-characters bins. Totals ("strict" answers + concrete elements indications) are displayed. The main statistical indexes of the distribution are the following (SD = Standard deviation; CV(%) = percent Coefficient of Variation):

Mean = 900.4; Median = 813; Mode = 1,040; SD = 341.6; CV(%) = 37.94%

Skewness = 1.31; Kurtosis = 1.12.

SUPPORTING INFORMATION Tables

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Author Character Message **Critical points Notes** XX<u>#1</u> The employee, Lack of matter: no specific Start woman, line position claim, no evident goal message (consequent suspect of relational problems). YY #2 First feed-The professional, Evasive action, bureaucratic man, executive in back answer. charge of the Project <u>#3</u> XXThe employee Hardened position, presence of Reaction / a possible threat (ALARM!!). Reinforce #4 "H" ΥY The professional Squabble + Refusing relational Second feedlevel + Personal attack to XX back (ALARM!!).

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Table S1: The case structure and the communication critical points.

This scheme displays the interaction structure and the communication critical points
related to the first part of the case. It considers the exchanged messages (Messages #1 to
928 #3) and provides comments on the "H" version of Message #4 (spontaneously prepared
929 by the "architect", i.e. YY). While creating our case, we figured that exactly this could be
930 the analysis of YY's colleague (or some external communication expert) that drove him
931 to suggest the alternative.

Blocks	"H" Structure	"S" Structure	Conversion
#1	Form of address	Form of address	$S"1" \rightarrow S"1"$ converted
#2	Re-addressing XX	Relational acceptance	$\underline{S"2"} \rightarrow S"4" converted$
#3	Information	Re-addressing XX	$\underline{S"3"} \rightarrow S"2" converted$
#4	Relational acceptance	Information	$\underline{S"4"} \rightarrow S"3"$ converted
#5	Form of saluting	Form of saluting	$\underline{S"5"} \rightarrow S"5" converted$

936 Table S2: Comparing text blocks in the two versions ("H" and "S") of Message #4.

937 The message presented as alternative to Message #4/H (i.e. the "S" version of Message 938 #4, in short Msg #4/S) has the same text blocks of version "H" with the same information 939 content. Only the position in the text and the written form were modified. Extreme right 940 column shows the "conversion table" of the blocks numbers for the two versions, in order 941 to simplify referencing while comparing them.

Age						Educ	Education						loyme	nt							
Bin	M		F		Tot	Bin	M		F		Tot	Bin	M		F		Tot				
	Val.	%	Val.	%			Val.	%	Val.	%			Val.	%	Val.	%					
A	10	23.8	32	76.2	42	El	1	25.0	3	75.0	4	Α	16	47.1	18	52.9	34				
В	11	36.7	19	63.3	30	Dg	18	46.2	21	53.8	39	В	6	85.7	1	14.3	7				
С	7	46.7	8	53.3	15	Gr	18	30.5	41	69.5	59	С	6	31.6	13	68.4	19				
D	9	60.0	6	40.0	15							D	1	20.0	4	80.0	5				
												Е	5	17.2	24	82.8	29				
	-	-	-									F	3	37.5	5	62.5	8				
Tot	37		65		102	Tot	37		65		102	Tot	37		65		102				

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Table S3: Main features of the sample (total sample)

Legend (age)	Legend (education)	Legend (employment)
A = 18-29 yy	El = Elementary level	A = Line workers
B = 30-39 yy	Dg = High School degree	B = Managers
C = 40-49 yy	Gr = Graduates / Post-graduates	C = Graduated technicians / Professionals
D = 50 yy and over		D = Artisans / Entrepreneurs
		E = Students
		F = Unemployed / Others

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948 The table provides a quantitative description of the total sample with regards to age (left

columns), education level (central columns) and employment (right columns) of the

950 participants; see Legends for the used symbols. Data is shown as totals and split down by

gender (M = males; F = Females).

Age	Age						cation					Emp	Employment				
Bin	М		F		Tot	Bin	М		F		Tot	Bin	M		F		Tot
	Val.	%	Val.	%			Val.	%	Val.	%			Val.	%	Val.	%	
Α	/	/	/	/	/	El	1	25.0	3	75.0	4	A	14	46.7	16	53.3	30
В	11	36.7	19	63.3	30	Dg	12	52.2	11	47.8	23	В	6	85.7	1	14.3	7
С	7	46.7	8	53.3	15	Gr	14	42.4	19	57.6	33	С	6	37.5	10	62.5	16
D	9	60.0	6	40.0	15							D	1	25.0	3	75.0	4
												Е	0	0.0	2	100	2
												F	0	0.0	1	100	1
Tot	27		33		60	Tot	27		33		60	Tot	27		33		60

Table S4: Main features of the sample (sub-sample "Age", >29yy)

Legend (age)	Legend (education)	Legend (employment)
A = 18-29 yy	El = Elementary level	A = Line workers
B = 30-39 yy	Dg = High School degree	B = Managers
C = 40-49 yy	Gr = Graduates / Post-graduates	C = Graduated technicians / Professionals
D = 50 yy and over		D = Artisans / Entrepreneurs
		E = Students
		F = Unemployed / Others

The table provides a quantitative description of the sub-sample "Age" (only participants 30 years, and over, old) with regards to age (left columns), education level (central columns) and employment (right columns) of the participants; see Legends for the used symbols. Data is shown as totals and split down by gender (M = males; F = Females).

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Age	Age						cation					Emp	Employment				
Bin	M		F		Tot	Bin	M		F		Tot	Bin	M		F		Tot
	Val.	%	Val.	%			Val.	%	Val.	%			Val.	%	Val.	%	
A	2	25.0	6	75.0	8	El	1	25.0	3	75.0	4	A	16	47.1	18	52.9	34
В	11	40.7	16	59.3	27	Dg	13	52.0	12	48.0	25	В	6	85.7	1	14.3	7
С	7	46.7	8	53.3	15	Gr	15	41.7	21	58.3	36	С	6	31.6	13	68.4	19
D	9	60.0	6	40.0	15							D	1	20.0	4	80.0	5
												Е	/	/	/	/	/
												F	/	/	/	/	/
Tot	29		36		65	Tot	29		36		65	Tot	29		36		65

Table S5: Main features of the sample (sub-sample "Employment", job owners)

Legend (age)	Legend (education)	Legend (employment)
A = 18-29 yy	El = Elementary level	A = Line workers
B = 30-39 yy	Dg = High School degree	B = Managers
C = 40-49 yy	Gr = Graduates / Post-graduates	C = Graduated technicians / Professionals
D = 50 yy and over		D = Artisans / Entrepreneurs
		E = Students
		F = Unemployed / Others

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The table provides a quantitative description of the sub-sample "Employment"

967 (participants with a regular employment only) with regards to age (left columns),

968 education level (central columns) and employment (right columns) of the participants; see

269 Legends for the used symbols. Data is shown as totals and split down by gender (M =

970 males; F = Females).

	All the	Questions ((13 items)	Quest. #2	2 excluded ((11 items)
	Words	Char.(SE)	Char.(SI)	Words	Char.(SE)	Char.(SI)
TOTALS	16,094	89,685	104,200	14,128	79,097	91,843
General means per item	1,238	6,899	8,015	1,284	7,191	8,349
% Gen. means per item	7.7%	7.7%	7.7%	9,1%	9,1%	9,1%
CV(%)	21.0%	20.3%	20.5%	18.78%	17.19%	17.56%
General means per person	158	879	1,022	139	776	900
Gen. means per person-item	12.1	68	79	12.6	71	82

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Table S6: Analysis of the text amounts' distribution with respect to the

975 questionnaire's items.

976 [Legend: Char.(SE) / (SI) = Character amounts, (Spaces Excluded) / (Spaces Included); CV(%) = 977 percent Coefficient of Variation]

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979 The table shows totals and some statistical indexes (some means and percent coefficient 980 of variation) referred to the words' and characters' amounts resulting from the texts of the 981 respondents' answers. Indexes are calculated on questions' items, in two ways: on all the 982 opened items (13 items, left part of the table); on all the items excluding Question #2 (11 983 items, right part of the table, see text for the reasons of exclusion). Further information in

Fig. S1.

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	"Strict"	"Strict" answers			e elements	5	Totals			
	Words	Ch.(SE)	Ch.(SI)	Words	Ch.(SE)	Ch.(SI)	Words	Ch.(SE)	Ch.(SI)	
TOTALS	6,463	35,484	41,461	7,665	43,613	50,382	14,128	79,097	91,843	
% on General total	45.7%	44.9%	45.1%	54.3%	55.1%	54.9%	100 %	100 %	100 %	
Gen. means p. person	63.4	348	407	75.1	428	494	138,5	775	900	
CV(%)	48.58%	43.63%	44.80%	45.56%	45.46%	45.75%	47.77%	46.13%	46.61%	
Minimum	8	73	76	4	25	28	4	25	28	
Maximum	175	905	1,075	185	1,030	1,180	185	1,030	1,180	

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990 Table S7: Analysis of the text amounts' distribution with respect to the participants.

991 [Legend: Ch.(SE) / (SI) = Character amounts, (Spaces Excluded) / (Spaces Included); CV(%) = 992 percent Coefficient of Variation]

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The table shows totals and some statistical indexes (some means, percent coefficient of variation and minimum / maximum) referred to the words' and characters' amounts resulting from the texts of the respondents' answers. Indexes are calculated on participants; answers to Question #2 have been excluded (see text for the reasons of exclusion). In the left part, data from the answers to the first item of the questions 999 ("strict" answer); in the central part, to the second item (concrete elements). Total values are displayed in the right part of the table. Further information in Fig. S2, S3.

1001 1002

Blocks	"H" Cho	osers		"S" Choosers				
	"H" Eval	"H" Evaluation		ation(*)	"H" Evalu	ıation	"S" Evaluation(*)	
	+	-	+	-	+	-	+	-
1	0	0	0	0	0	1	1	0
2	16	13	6	10	13	75	23	4
3	6	1	7	5	5	6	50	4
4	3	1	7	1	4	16	52	0
5	0	0	1	0	0	1	7	0
TOTAL	25	15	21	16	22	99	133	8

 $^{(*)}$ The sequence of the blocks belonging to Message "H" is the original one (as it appears in the actual 1006 message); the sequence belonging to Message "S" is *converted* (see SI, Section 10 and Note 7, for details). 1007

Table S8: Block preference analysis (I) – Amount of expressed REFERENCES.

[Legend: +/- = type of predicted effect (resolution or escalation of the conflict) of

Message "H" and Message "S" on XX.]

The table displays the "preference" for different blocks, expressed through the amount of references to each block. Data is disaggregated for H/S choice and for type of expressed predictions (+/-) on Message "H" and Message "S" effects. Respondents, while evaluating the "H" message, seem to be mainly focused on the same block (the Block #2), regardless of their H/S choice. On the opposite, while evaluating the "S" message, they mainly focus on different blocks, depending on the choice they expressed.

General Totals		Averages
Total references to Msg "H" blocks	161	1,59 references/participant
Total references to Msg "S" blocks	178	1,76 references/participant
Total references expressed by "H" choosers	77	2,96 references/participant
Total references expressed by "S" choosers	262	3,49 references/participant
General total	339	3,36 references/participant

Table S9: Block preference analysis (I) – Additional data.

The table displays some additional information about data displayed in previous <u>Table</u>

<u>S8</u>. Additional data consists of total expressed references and mean values about

references per participant.

Blocks	"H" Ch	oosers			"S" Choosers			
	"H" Evaluation		"S" Evaluation(*)		"H" Evaluation		"S" Evaluation(*)	
	+	-	+	-	+	-	+	-
1	0	0	0	0	0	1	1	0
2	13	9	6	10	10	43	18	4
3	5	1	7	3	3	5	34	3
4	3	1	4	1	4	15	35	0
5	0	0	1	0	0	1	7	0
TOTAL	21	11	18	14	17	65	95	7

1029 ^(*) The sequence of the blocks belonging to Message "H" is the original one (as it appears in the actual 1030 message); the sequence belonging to Message "S" is *converted* (see SI, Section 10 and Note 7, for details). 1031

1032 Table S10: Block preference analysis (II) - Amount of PARTICIPANTS expressing

references.

1034 [Legend: +/- = type of predicted effect (resolution or escalation of the conflict) of

1035 Message "H" and Message "S" on XX.]

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The table displays the "preference" for different blocks, expressed through the amount of participants that refer to each block. Data is disaggregated for H/S choice and for type of expressed predictions (+/-) on Message "H" and Message "S" effects. Respondents, while evaluating the "H" message, seem to be mainly focused on the same block (the Block #2), regardless of their H/S choice. On the opposite, while evaluating the "S" message, they mainly focus on different blocks, depending on the choice they expressed.

General Totals	Averages	
Total people referring to msg "H" blocks	114	1,13 referred blocks/participant
Total people referring to msg "S" blocks	134	1,33 referred blocks/participant
Total "H" choosers' block evaluations	64	2,46 referred blocks/participant
Total "S" choosers' block evaluations	184	2,45 referred blocks/participant
General total	248	2,46 referred blocks/participant

Table S11: Block preference analysis (II) – Additional data.

1048 The table displays some additional information about data displayed in previous <u>Table</u>

1049 <u>S10</u>. Additional data consists of total people expressing references and mean values about

referred blocks per participant.