The Accuracy of Intuitive Interspecies Communication (IIC) through the Lens of a Content Analysis of the Written Materials Created by Animal Communicators

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This paper presents in a shortcut and popular way some findings of a piece of research summarized in a research article which is now under review in a scientific journal. You are welcome to share its ideas and I give permission to cite sample sections of this work, referenced as follows:

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INTRODUCTION

One of the first questions that occurs to most people when they first learn about the phenomenon called intuitive interspecies communication (IIC) or the work of animal communicators (ACs) is: "Does it really work?" or "Is the information gained through the intuitive processes by animal communicators valid?" Depending on their world views and personal dispositions, they answer "no", "yes" or "maybe". This text is a social science contribution to the discussion on these questions, which is of interest to the lay as well as the professional public.

Our answer is based on empirical research conducted from 2018 - 2019 among professional and semi-professional animal communicators from Europe, South Africa and Australia who declare they are able to communicate distantly, most often using an animal's photographic image. [1] Top communicators from North America were also contacted for the research, because especially in this part of the world we can talk about a strong animal communication industry offering books, talk shows, courses, workshops and other services, and this symposium on animal communication is also organized by a North American university. However, all the ACs approached in this part of the world eventually decided not to participate, which is of interest sociologically, with regard to the investigation of collective mentalities, but outside the focus of this text. Communicators who decided to participate in the research, and to whom we thank, received the same photographs of five animals (a cat, a dog, a horse, a parrot and a snail) by email. Their task was to send us back five written documents (one for each animal) containing as much information as possible about the animal

[1] We thank Ms. Wynter Worsthorne from South Africa and Ms. Šárka Janouchová from the Czech Republic for their great help with data collecting.

depicted and its environment. They could use our structured questionnaire or choose their own method of writing a record.

THE AIM OF THE RESEARCH

The concerned research aims to determine the degree of validity (accuracy) of the information contained in the records created as described. We were also interested in the degree of unpredictability of valid information, its level of detail, as well as its other semantic characteristics.

THE RESEARCH METHOD

A simple task at first sight is actually rather complicated and demanding in terms of methodology. We are not going to describe methodological details of the method of content analysis used, these are presented in a scientific article.[2] Just as an example, the key task here is to determine the validity and accuracy of a specific piece of information. Who and how should determine that certain information is valid or not? Is it the researcher, the animal owner, an expert panel, the public? Is the subjective opinion of humans necessary to evaluate information or can we leave the process to machines to arrive at more "objective" results? In our research, for a number of reasons that would be redundant to elaborate on here, we have decided that the most appropriate person is the owner, or keeper, of the animal and their subjective opinion of the validity of the information. The owner was asked to record his or her assessment of each piece of information contained in the record on a five-point scale, where 1= *fully valid* and 5 = *wholly invalid* information.

But what if, for example, an animal owner says the information that his cat likes to play with a certain toy is fully valid, but another member of the household says that it is not true, that the toy is not the cat's favourite? Whose opinion is correct? These situations may not be uncommon especially with less "tangible" phenomena such as favourite places, people, activities, desires, fears, etc. Therefore, to capture this difference, we also measured in our research agreement in the evaluation of selected information between the owner and another close person (a household member, stable rider, caregiver, etc.) and where agreement was too low (less than 75%), we excluded the record from the analysis. This operation is called reliability test, as we are testing if the procedure (measurement) is reliable and how much.

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[2] Content analysis is an autonomous and well-grounded methodological school in social sicences and humanities including a range of quantitative and qualitative techniques for examination of texts, images, audio and video recordings. The quantitative content analysis took shape during the researches into the content of the mass media communication, the qualitative is based on the hermeneutic tradition of in-depth analysis of one text. For an overview of the method, see for example: Riffe, D., S. Lacy, and F. Fico. 2014. *Analyzing media messages: using qualitative content analysis in research*. Third edition. Routledge, Taylor & Francis Group, New York; Neuendorf, K. A. 2017. *The content analysis guidebook*. Second edition. Sage, Los Angeles; Krippendorf, K. 2019. *Content analysis: an introduction to its methodology*. Fourth edition. Sage, Los Angeles.

To gain some frame of reference for assessing the records of advanced ACs, we obtained written records from 65 laypersons, 9 beginners in IIC, and 3 veterinary experts, in the same manner as from advanced communicators. A total of 224 reports of communication (19 records from seven advanced communicators, 27 records from beginners, 166 records from laypersons, and 12 records from experts) was collected.[3]

Each record was divided by researchers into what we refer to as analytical units (AUs). We defined an analytical unit (AU) as the smallest meaningful whole containing one piece of information within a written record, for which it is possible to evaluate the validity of information.[4] The 224 records were cut into 8,660 AUs. Each of these 8,660 units was individually evaluated by at least one animal owner on a five-point validity scale (1 = *fully valid*, and 5 = *wholly invalid*). The records with the highest proportion of valid information were further analysed in terms of unpredictability of valid information and its detail. A total of fully valid 1011 AUs (pieces of information) - 509 from advanced AC and 502 from the control group of laypersons – advanced to the next level of analysis.

Determining unpredictability was a little more complicated process. The base for a standard of types of predictable and unpredictable information was constructed on the basis of validated records of three veterinarians who followed our questionnaire. Compared to other respondents, they should also express an opinion about the unpredictability of certain types of information. Each of 1011 fully valid AUs was evaluated on a five-point scale of unpredictability (1 = *unpredictable information (low predictability)*; 5 = *easily (highly) predictable information*). Fully valid and unpredictable information was further evaluated on a similarly designed five-point scale of level of detail. We conducted tests of reliability for both variables as well as for cutting the recordings into AUs with satisfactory results between 82 % to 100 %.[5]

The information that passed through all the three sieves of quantitative content analysis, i.e. highly valid, unpredictable and detailed information, was subjected to a deeper semantic qualitative analysis.

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[3] Our datasets are available at The Czech Social Science Data Archive (ČSDA) at the Czech Academy of Sciences: http://archiv.soc.cas.cz; email: archiv@soc.cas.cz. The research data title is *Invisible language 2019: A sociological view on intra- and interspecies intuitive communication,* DOI: 10.14473/K0009.

[4] E.g. the sentence "The dog usually eats kibble from a green bowl placed on the wooden floor." needs to be split into three separate AUs for analysis purposes: 1st AU: The dog usually eats kibble – 2nd AU: from a green bowl – 3rd AU: placed on the wooden floor.

[5] There are different reliability tests. We used simple Holsti coefficient which vary from 0 to 1. The value 0,82 of the Holsti coefficient means 82 % reliability. For an explanation of reliability tests see: Krippendorf, K. 2009. Testing the Reliability of Content analyzing Data: What is Involved and Why. In: *The Content Analysis Reader* edited by K. Krippendorf and M. A. Bock, pp. 350-357. Sage, Los Angeles, London, New Delhi, Singapore.

RESEARCH RESULTS

The main results can be summarized in several thematic areas:

1. Simple validity

Table 1 summarises the information related to the first step of measuring the validity of information.

Table 1. Distribution of valid information in four groups of respondents

	Laypersons	***Beginners in IIC***	***Animal communicators***	***Veterinary experts***
Overall number of analysed pieces of information (AUs)	5485	1661	1256	258 [a]
Average number of AUs in one record	33	62	66	22
Average percentage of valid information	62 %	74 %	81 %	79 %

Source: Author

[a] Expert answers that specify what "cannot be estimated" are not included.

The proportion of valid information from communicators is similar to the proportion of valid information from veterinary experts.[6] However, veterinary experts venture to estimate relatively less information based on a photograph; their rather frequent response to a concrete question is that it is impossible to estimate based on a photograph.

Perhaps even more interesting data is provided by the analysis of unpredictable information.

2. Analysis of Unpredictability

Veterinary experts cannot be included in this analysis because their records and comments serve primarily as a benchmark for the predictability of information based on expert knowledge in our research. Therefore, it is

[6] Comparison of average values in different groups makes sense when the groups are homogeneous. For example, the average age of a group composed of young children and old people may be 35 years, and the same may be true for a group composed of people between 30 and 40 years. These are two very different groups, the first is age heterogeneous, the second is age homogeneous, so there is a danger of comparing the incomparable when we rely on average values only. To compare the homogeneity of the different groups, the statistical value of a standard deviation is useful. In our research, the standard deviation values are very similar (from 0.15 to 0.17) throughout the entire dataset which indicates, inter alia, a very similar homogeneity and, thereby, also comparability of the average values of the groups.

interesting to look at the average proportion of unpredictable information for the subset of 1011 valid AUs from the most valid records from the lay control group (502 AUs) and from the advanced communicators (509 AUs).

Table 2. The proportion of unpredictable valid information in the records of communicators and laypersons

	Laypersons	***Animal communicators***
Number of analysed valid pieces of information	502	509
Percentage of unpredictable valid information	95 AUs = 19 %	331 AUs = 65 %

Source: Author

A simple comparison shows that there is a high proportion of unguessable valid information in the communicator records. The correlation analysis using Eta coefficient with a value of 0.689 (where 0 = no association, 1 = 100% association) confirms the thesis that the high proportion of unguessable valid information in the communicator records is not random.

3. Semantic Analysis of Records

This conference text does not allow enough space for a detailed presentation of the semantic analysis of records, so we have no choice but to ask the reader for patience until the study is published, and the author of the paper will be happy to send it to interested readers on request. In summary, the records of communicators are of a different nature than those of laypersons or experts. Whereas the latter follow a line or internal logic that can be described as a "story" set in a context which is easily understood from a third person's perspective, communicators' records have often a character of discontinuous information which could be depicted as incoherent and fragmentated. They frequently contain a detailed description (e.g. a strange accident or an episodic situation in the animal's life, an emotional relationship with concrete people or other concrete animals, a description of a particular place), which, however, lacks a broader context, i.e. a 'story'. On the other hand they sometimes contain a general characterisation (e.g. the role of the animal in the owner's life or family) without specific examples.

Similarly, while the veterinarians' records can be successfully compared with each other, i.e. they comment on certain types of information and therefore opinions on this or another point can be compared, the communicators' records, on the other hand, tend to be unique and difficult to compare with each other, despite the fact that they refer to one particular animal and respond to similar questions.

CONCLUSION

Our findings indicate that ACs intuitively produce a relatively high proportion of valid, unpredictable and detailed information. The question "Is the information gained through the intuitive processes by animal

communicators valid?" may be answered, with some simplification, as follows: "Yes, from the point of view of social actors (owners, carers), quite frequently it is, but we don't know exactly how it is possible." We have data supporting the idea that some people systematically employing IIC are capable of achieving highly valid results with relative frequency, but we lack an unequivocal theoretical explanation. To come up with it is a task for further research.