Tilburg University

The relationship between language attitudes and language choice

Jaspaert, K.; Kroon, S.

Published in:
Language attitudes in the Dutch language area

Publication date:
1988

[Link to publication in Tilburg University Research Portal](#)

Citation for published version (APA):
Jaspaert, K., & Kroon, S. (1988). The relationship between language attitudes and language choice. In R. van Hout, & U. Knops (Eds.), *Language attitudes in the Dutch language area* (pp. 157-171). Foris Publications.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

The Relationship between Language Attitudes and Language Choice*

Koen Jaspaert and Sjaak Kroon

1. INTRODUCTION

In this contribution the usefulness of the attitude concept for the explanation of language choice data will be discussed. The data serving as a basis for this discussion are drawn from a questionnaire that was administered to 250 Italian immigrants in the Dutch language area. This survey is part of a large scale sociolinguistic research project that deals with language shift and language loss of Italian and Turkish immigrants in the Netherlands and Flanders (the Dutch speaking part of Belgium). The main issue in this project is the structure of social influence on the processes of language shift and language loss.

In earlier research in this field, it has been observed that social factors have an ambiguous influence on language shift processes: in some instances a factor seems to influence language shift in one direction, whereas in another situation that same factor exerts an influence in the opposite direction (Fishman 1972a). As Fishman (1972a) points out, this ambivalence can only be lifted by introducing a theory of social influence on language shift which accounts for the occurrence and the direction of patterns of influence on language shift in relation to the social and linguistic situation in which the process is studied (cf. Gal 1979, Appel & Muysken 1987). In such a theory, attitudes, or concepts related to attitudes, may occupy a prominent place. It should be noted, however, that in most cases attitudes are introduced in linguistic research as fairly isolated concepts, not clearly related to any theory for the explanation of behaviour (e.g., Linguistic Minorities Project 1985).

In the original design of our research project (cf. Jaspaert & Kroon 1986), attitudes as such were not included. As a theoretical framework

*This research is supported by the Foundation for Linguistic Research, which is funded by the Netherlands organization for scientific research (NWO), by the University of Brabant and by the Belgian Fund for Fundamental Collective Research (FKFO).

on the basis of which an explanation for the variation in the patterns of language choice (i.e., Italian versus Dutch) was sought, Bourdieu's theory of symbolic economy was used (e.g., Bourdieu 1982). Although some of the concepts that were derived from this theory for use in the project resemble attitudes in some ways, we chose not to consider them as such. The reason for this is that these concepts lack (or, rather, it is not clear that they have) one of the characteristics that is considered to belong to the common core of definitions of the attitude concept, namely the interpretation of attitude as a mental construct offering an explanation for consistency in behaviour (Knops 1983, Edwards 1983, Gardner 1985).

We chose not to test explicitly any social psychological theory offering an explanation for verbal behaviour, but to incorporate in our research design a number of questions on attitudes. Examining the relation between these attitude measures on the one hand, and language choice and social factors on the other, can then enable us to shed some light on the question whether attitudes constitute a meaningful addition to a theory explaining language choice.

In this contribution no comparison will be made between attitudes and the concepts we derived from Bourdieu's theory. We will limit ourselves to a discussion of the relation between attitudes, language choice and social factors. In as far as this discussion poses questions of a more theoretical nature, we will deal with them from the perspective of the theory of reasoned action developed by Ajzen & Fishbein (1980), a social psychological theory in which the attitude concept occupies a central position. We will discuss two types of results: the correlational relation between attitude measures and measures of language choice (section 3), and the position of attitudes in a causal model explaining variation in language choice (section 4). Prior to these discussions the operationalization of the language choice and attitude measures used in our research will be presented in section 2.

2. THE OPERATIONALIZATION OF CHOICE AND ATTITUDES

One of the basic concepts of the research project from which the data presented here are drawn is language shift. It is not the purpose of this project to study the intergenerational process of language shift, but the shift that takes place when individuals decide to use the newly acquired language instead of their mother tongue. Central to our understanding of the phenomenon is that shift can only occur in those instances in which the individual has a choice. The observation that an Italian immigrant who used to speak Italian to the doctor in Italy now speaks Dutch to the doctor in the Netherlands may be interesting from an intergenerational point of view (Italian losing ground in the medical domain), but is only

interesting from an intragenerational point of view when the doctor in the Netherlands also masters Italian (cf. Jaspaert, Kroon & Van Hout 1986). Therefore, we have checked which language the informants use whenever they come into contact with fellow bilinguals. We have made an inventory of the contacts they have with bilinguals. For each situation in which such contacts take place, we asked the informant which language he or she usually uses with bilinguals. After this we asked whether they sometimes shift to another language. By adding up all the instances in which Dutch was chosen (1 for every time Dutch was indicated as the usual language, 0.5 when Italian was the usual language but occasional shifts towards Dutch occurred) and dividing this total by the number of situations in which the informant had the choice of language, we constructed an index for language choice.

The attitudinal component of the questionnaire consisted of the following six questions.

1. In my opinion, Italian is a more beautiful language than Dutch.
totally agree/agree/agree nor disagree/disagree/totally disagree
2. In my opinion, Dutch is a richer language than Italian.
totally agree/agree/agree nor disagree/disagree/totally disagree
3. In my opinion, children from Italian immigrants in the Netherlands/Flanders should make an extra effort to learn Italian.
totally agree/agree/agree nor disagree/disagree/totally disagree
4. I'd much rather use Dutch than Italian
I'd rather use Dutch than Italian
I have no preference for either language
I'd rather use Italian than Dutch
I'd much rather use Italian than Dutch
5. In my opinion, it is
very important/important/important nor unimportant/not important/ not important at all
to keep up mastery of Italian, when living in the Netherlands/Flanders.
6. In my opinion, it is
very important/important/important nor unimportant/not important/ not important at all
for my children to keep up mastery of Italian.

Three questions (3, 5 and 6) deal with aspects of the mastery of Italian by the informant and his/her child(ren), two (1 and 2) with beliefs concerning attitudes with respect to Italian and Dutch and one question (4)

deals with the informant's preferences in language choice. We entered the six variables derived from these questions in a principal component factor analysis. This analysis resulted in two factors which can be interpreted as representing an affective (ATT₁) and an instrumental (ATT₂) dimension of language attitude respectively (see Table 1).

Table 1: *Rotated principal component factor solution for six attitude questions*

	factor 1	factor 2
question 1	-.78	-.05
question 2	.62	-.16
question 3	.16	.71
question 4	.77	-.23
question 5	-.33	.74
question 6	-.31	.76

Factor 2 consists of the three mastery questions, whereas factor 1 consists of the two belief questions and the language choice question. The total amount of explained variance is 59%. On the basis of this analysis, the factor scores for these two factors were computed. They will be referred to as ATT₁ and ATT₂.

3. CORRELATIONS BETWEEN CHOICE AND ATTITUDES

We found a rather low correlation between language choice and the two attitudinal factors, as can be seen in Table 2.

Table 2: *Correlations between language choice and language attitudes (n = 250)*

	ATT ₁ (affective)	ATT ₂ (instrumental)
language choice	-.35	.24

Attitude explains 18% of the variance in the dependent variable. Correlations of this magnitude between attitude and a dependent variable are no exception in linguistic research (cf. Van Hout & Münstermann, this volume, McAllister & Mughan 1984, Gardner 1985). A number of explanations have been offered for this phenomenon. We will discuss

some of them in relation to our results, thereby relying on the explanations offered by Ajzen & Fishbein (1980) in their theory of reasoned action.

With regard to the specific operationalizations of both the attitude and the language choice variables in Table 2, one could first of all argue that a considerable amount of error has crept in. Indeed, the six questions regarding attitude cannot be expected to grasp the concept in all its nuances. Likewise, the language choice variable used does not take into account the relative importance of every situation in the total amount of contacts a person has. Still, there is evidence that error should not be considered as the main cause for the low correlation. The fact that the correlations are in line with what was found in other studies seems to suggest that the error in the variables used here is not exceptionally high. If we accept the idea that through factor analysis a common core of variance is deduced, leaving out idiosyncratic components, then there is little reason to believe that a more sophisticated measure of attitude would yield far superior correlations.

Secondly, one could of course argue that there is no reason to believe that the perceived affective and instrumental value of a language should correlate with patterns of language choice. In Ajzen & Fishbein's view, each specific language choice in a given situation is governed by the specific attitude towards using one or the other language in that situation, and not by the value attached to these languages in general. Attitudes (the underlying concepts) and action (behaviour) should be measured on the same level of specificity. It can easily be shown that this idea is untenable. Since the time factor is a constitutive element of the specificity of any given situation, a specific situation in which an action takes place cannot exist prior to the action itself. The condition of equal specificity would mean that none of the underlying concepts could exist prior to the action. In this way one of the basic conditions of causal relations – i.e., the priority in time of the 'cause' – would not be fulfilled. Of course, although complete equivalence of specificity is theoretically untenable, one could still point out that the discrepancy in specificity between attitude and language choice measures in this case is too large. Fortunately we have a way of checking this possible fallacy. As one of the attitude questions, we asked whether the informants find it important that their children keep up a mastery of Italian. In the course of the interview we also asked which language the informants use with their children. Since this last question only applied to informants with children ($n=157$), we calculated the correlations between the language used with their children, the forementioned attitude question and the global language choice and attitude measures for this group (see Table 3).

Table 3: *Correlations between language use with children and language choice and language attitudes (for subgroup with children; n = 157)*

	ATT child- ren's langu- age mastery	ATT ₁ (affective)	ATT ₂ (instrumental)
language with children	.34	-.22	.21
language choice	.31	-.31	.13

As can be deduced from Table 3, measuring attitudes on a similar level of specificity does not improve the amount of explained variance considerably: the more specific attitude explains 11% of the variance in the language choice with children, whereas the two general attitude concepts explain 9%.

A third objection that could be raised with the work of Ajzen & Fishbein in mind is that the correlations are low because, apart from the attitude, the action is also determined by the social norm. Yet, again there are theoretical arguments as well as arguments related to the data presented here, not to attach too much importance to this explanation. Ajzen & Fishbein themselves point out that social norm and attitude usually influence the action in the same direction. Since social norm is defined in their model as the perception of an individual of what important others wish him or her to do regarding a certain action, one can safely assume that in the type of research we are discussing here, social norm and attitude must in general coincide. If the personal attitude of nearly all members of the community would be contrary to the social norm, the norm itself would be untenable and necessarily shift towards a more realistic content, more related to the overall attitude. Moreover, in language shift research, one of the main methodological problems is the influence of social desirability on the information given by the informants. There is no reason to believe that this problem did not influence our attitude measures. Social desirability in this sense can hardly be interpreted as anything else but the influence of social norm. All this means that part of the observed correlation between attitude and language choice is probably due to the influence of social norm, and that another part of that correlation is due to the joint influence of attitude and social norm. In other words, the argument that in addition to attitude, social norm also influences the action, does not explain the low correlation between attitude and language choice; on the contrary, it considerably diminishes

the importance of attitude as a determining factor for language choice.

A last argument that could be brought up in this context is that we did not measure the attitudinal component which is relevant to language choice. As was pointed out before, three out of the six attitude questions deal with the mastery of Italian, and two of the remaining questions measure beliefs concerning attitudes rather than attitudes themselves. The three mastery questions constituted the instrumental measure ATT_2 . The two belief questions form, together with the only language preference question, the affective measure ATT_1 . Although this remark gives rise to a number of interesting questions, it does not offer a solid explanation for the low correlations either. In Ajzen & Fishbein's theory beliefs are separate concepts on the basis of which attitudes are formed. Since they are one conceptual level farther removed from the action to be explained, the correlation between beliefs and action may be slightly lower than between attitudes and action. One should bear in mind, however, that this distance between beliefs and attitudes is very much a peculiarity of Ajzen & Fishbein's theory, in which a number of hypothetical concepts are used to explain behaviour. In other attitude theories (cf. e.g. Knops 1987 for an overview), beliefs are simply considered as aspects of attitudes, so that in those theories the attitudinal character of our ATT_1 measure would be unquestionable. The objections against the ATT_2 measure are more serious. Language choice and language mastery are in fact two different forms of language behaviour. However, it is generally assumed, both by researchers and language users, that there is a direct connection between the two (cf. Andersen 1982, Münstermann & Hagen 1986). More use of a language leads to a better mastery of the language, and the chances of a language being used in a certain situation depend for a good deal on the mastery of that language. In this sense we could consider opinions on the importance of mastery of the language as beliefs that form an important part of the attitude concerning the use of that language. If we take the example of using Italian with the children again, we would assume that informants who find it important that their children know Italian would, given the fact that the ample use of Italian would enlarge the children's mastery of that language, use as much Italian as possible with them. The correlations between these beliefs and language choice might be a bit lower than between language choice and the attitude towards the use of Italian, but there is no reason to believe that the difference would be substantial. Still, of all the explanations for the low correlations that were reviewed here, the relation between language mastery and language choice seems to be the most plausible one. Therefore, we will examine it more closely before moving on to a discussion of the place of attitudinal concepts in a model representing the causal influences on language

choice.

Let us suppose that beliefs regarding the mastery of Italian do not have a determining influence on the attitude and the behaviour concerning language choice. We have already pointed out that there certainly is a relation between mastery and choice. If that relation has no determining power, this would mean that other beliefs have a stronger effect on aspects of language choice. One can easily imagine what these beliefs would be. The choice to use or not to use Italian in a certain situation is at the same time also always a choice to use or not to use Dutch in that situation. This means that in the light of the connection between use and mastery of a language, beliefs about the importance of the mastery of Dutch influence attitude and behaviour concerning language choice. The low correlation between the perceived importance of the mastery of Italian and language choice patterns can then be explained by the prominence of the beliefs regarding the mastery of Dutch. The interesting point here is why mastery of Dutch is judged to be more important than mastery of Italian. The prominence of Dutch is not related to the perceived inherent qualities of Dutch and Italian: language choice with children does not correlate with the attitude questions regarding the beauty and the richness of Italian in comparison to Dutch (respectively .17 and $-.02$). The most plausible explanation here seems to be the superior social value of Dutch: although people value Italian higher than Dutch and would like their children to be able to speak it, they use Dutch in the home because they believe that this will improve their children's social position. It is important to point out here that the above motivation for language choice directly derives from one's personal understanding of social reality, and as such it should be regarded as an attitude in which the social value of the behavioural options dominates the choice of action.

This effect of the 'attitude towards Dutch' is the only argument which, at least to a certain degree, seems to offer some explanation for the low correlations between attitude and action. It raises, however, the problem of the place of the attitudinal concept in a causal model, representing the paths of influence on language choice. From the above explanation one would expect the correlation between language choice and attitude towards Italian to be much higher in situations in which social value plays a much less important role. Could it be that the overall social value of the behavioural options has a more or less constant influence on the language choices made, even in situations where that social value is not overtly at stake? In that case the attitude concept would not be an evaluation of beliefs with regard to a certain course of action, but more a kind of intermediary concept explaining the effect of social reality on

behaviour. We will discuss this point in the next section.

4. THE PLACE OF ATTITUDES IN A CAUSAL MODEL

In the previous section we have discussed the rather low correlations between language choice and attitudes found in our research. The question whether attitude is a useful concept in explaining language behaviour does not, however, depend solely on the size of the correlation. Another important factor in this respect is the position of attitudes in the causal model explaining language behaviour.

Starting from a basic causal model consisting of social factors, intermediate concepts and behaviour, there seem to be three places where attitudes can be introduced. Attitudes can more or less be regarded as primary factors, as intermediary concepts or as constructs derived from the act of rationalization of behaviour. Since in the third interpretation attitudes do not affect the explanation of variation in behaviour, we will not discuss that interpretation here any further (cf. e.g. Nuttin 1975).

An important point to discuss here is the relation between attitudes and primary factors within such a causal model. The basis for this discussion is the insight that primary factors in most cases do not influence forms of behaviour directly. These factors are connected to a system of social evaluation in which they are given symbolic value which can in turn influence behaviour. When one finds, for instance, a correlation between old age and the use of dialect, this correlation cannot be interpreted in the sense that age (in the physical sense) causes people to use more dialect. Someone's age is an indicator of the time and the social system in which one had to organize his or her language choice system, and these social circumstances have an obvious influence on the amount of dialect use. What this indirectness of influence amounts to is that in between social factors and behaviour a number of intermediate concepts can be introduced which offer an interpretation for the influence. These concepts can be interpreted in two ways. They can be considered mere interpretative devices, which represent as it were the way in which primary factors influence the form of behaviour to be explained. In terms of causal modelling, they constitute so-called endogeneous variables, i.e., variables the variance of which can be completely accounted for within a perfect model. In another interpretation these concepts are viewed as mental constructs. As such they are expected to contribute significantly to the explanation of the variance in the dependent variable, apart from the role they play as intermediary concepts. In this sense they can be regarded as primary factors themselves. These concepts are exogeneous in the sense that they should not be expected to be accounted for completely within a perfect model. In other words, whereas in the non-construct in-

interpretation of these concepts, an error term will appear in the model, representing the amount of variance in the concept that is not accounted for within the model, in the construct interpretation, no such error term is needed.

The distinction between construct and non-construct interpretation of these concepts should not be regarded as being only theoretically important. When, for instance, inducing change in behaviour is discussed, it makes a lot of difference which type of concept one believes is being dealt with. When one accepts the existence of a mental construct influencing the behaviour to be changed, one can try to change the behaviour by inducing changes in the underlying construct. In the case where a concept is seen as mere interpretation, it is of no use in bringing about the behavioural change. In linguistic research in which attitudes occur, their position in the causal model is seldom explicitly discussed (cf. Linguistic Minorities Project 1985). From the treatment of correlations between attitudes and dependent variables it can be deduced that attitudes are practically always seen as factors influencing in their own right the dependent variables. They receive the status of mental construct, a psychological reality and not a mere interpretation of causal patterns between primary factors and dependent variables. The fact that attitudes are expected to contribute to the explanation of behaviour independently from the other primary factors does not mean, of course, that the causal effects of attitudes and other primary factors on the dependent variables cannot be interrelated: attitude can very well be partly influenced by other primary factors, as long as it is not completely determined by them. The causal model including attitudes interpreted in this way results in a basic path-analytical model as in Figure 1.

Figure 1: *Path-analytical model with attitudes as a mental construct*

In the second interpretation the attitude concept is merely a device to present the influence of primary factors on the dependent variable in an interpretable way (Figure 2).

The crucial difference between the two theoretical models as they are presented here lies in the error term connected with the attitude

Figure 2: *Path-analytical model with attitudes as an intermediate concept*

concept in the second model, and its absence in the first. Of course it is possible to leave out the error term, even when attitudes do not contribute significantly to the explanation of the dependent variable, thus indicating that one chooses to interpret attitudes as mental constructs, even when they do not enlarge the explanatory power of the model. In the absence of an explanatory surplus, the question regarding the psychological reality of attitudes becomes purely theoretical and the construct-interpretation seems completely unmotivated. In other words, why would one accept the existence of a certain mental construct, if behaviour can just as well be explained without it.

From the discussion of the two models above, it should be clear that the choice for one of the models should be based on a comparison of a series of causal models. In the following, we will present and discuss these models for our study on language choice patterns. In this discussion one should keep in mind that the distinction between the two models may in reality not be as clearcut as the theoretical models suggest. The question to be answered will therefore not so much be whether attitudes contribute to the explanation of variance in the dependent variable, but rather whether the extent to which attitudes explain variance warrants – in view of the correlations between attitudes and the dependent variable – the enlarged complexity of the model which stems from their introduction. The first model to be considered is one in which only attitudes are introduced as independent variables (Figure 3).

Figure 3: *Path-analytical model with attitudes as independent variables*

As was already pointed out in section 2, the two attitude concepts

that came out of the factor analysis explain 18% of the variance in the dependent variable.

In Figure 4 a model is presented in which only primary social factors are used as independent variables. In this model 67% of the variance in the dependent variable is explained.

Figure 4: *Path-analytical model with social factors as independent variables*

As independent variables in this analysis are introduced:

- X_1 = age
- X_2 = length of stay in the Netherlands
- X_3 = generation
- X_4 = ethnic profile of the neighbourhood
- X_5 = profession
- X_6 = community

The ethnic profile of the neighbourhood relates to a five-point estimate of the density of the Italian ethnic group in the neighbourhood. Profession is a three point-scale representing unskilled labor, skilled labor and lower level employees, other clerical professions or 'higher'. It was not useful to make further distinctions, since the group as a whole had a rather low social status. Community is a dichotomous variable, indicating whether the informant lives in the Netherlands or in Flanders. The question which needs to be answered now is what happens when the two models above are merged (Figure 5).

The most important fact resulting from the comparison of the different models is that the amount of variance accounted for in the model presented in Figure 5 (69%) is only slightly higher than the amount of

Figure 5: *Path-analytical model with attitudes and social factors as independent variables*

variance explained in the model in Figure 4 (67%). This means that the introduction of attitudes in the model improved the explanatory power of the model by only 2%. All the other variance accounted for by attitudes can also be accounted for by the primary social factors. Theoretically, one could also argue that the basic model is the one presented in Figure 3, in which primary social factors are introduced in Figure 5. In that case the conclusion would not be that attitudes add little or nothing to the explanatory power of the model, but that the impact of the social factors is much smaller when introduced in combination with attitudes. This interpretation is undesirable since it would imply that attitudes affect social factors and not vice versa. For most social factors such a model would violate one of the basic requirements for causal relations, i.e., the demand that the cause precedes the effect in time.

If we discard the possibility of attitudes affecting social factors, the model that emerges resembles the theoretical model in Figure 2 much more than the model in Figure 1. This means that attitudes do not only correlate rather low with language choice, but also that the part of the attitude that correlates with language choice is precisely the part that is determined by the social factors. In this respect there seems to be no reason whatsoever to postulate a mental construct such as attitudes to explain language choice behaviour. Attitudes can best be considered as an intermediate interpretative concept between primary factors and behaviour.

From the model in Figure 5 can also be inferred that even as intermediate concepts, attitudes are not very successful. The introduction of attitudes has hardly altered the pattern of direct effects of the primary factors on the language choice variable. Most of the influence of these factors remains uninterpreted by the attitude concepts. In order to be useful, intermediate concepts should reduce the direct effect of primary factors on the dependent variable. As such they summarize as it were the variance in a number of primary factors which is relevant for the explanation of variance in the dependent variable. The pattern of direct and indirect effects which is represented in Figure 4 indicates very clearly that such a summary will make the model much more elegant. We have basically two groups of primary factors, one related to the temporal context and one related to the spatial context of the immigration situation, with profession as a more or less single factor in the model. If we understand the way in which the temporal context and the spatial context of the immigrant situation influence language choice we can try to quantify this understanding in concepts. Upon introduction in the model, these concepts will not raise the amount of variance explained, but they will give insight into how the influence of the social factors on language choice should be understood, thus giving to the model a greater explanatory adequacy. The introduction of these concepts falls outside the scope of this article. Regarding the issues dealt with in this contribution, the emerging conclusion is that the inclusion of attitudes in the causal model of language choice is not warranted, neither as a mental construct nor as an intermediate concept.

5. CONCLUDING REMARKS

In this contribution we have discussed the relation between attitudes, language choice and social factors influencing language choice. Even when taking into consideration the limitations of the research reported here (mainly concerning the operationalization of attitudes), one can say that attitudes did not turn out to contribute significantly to the understanding of patterns of variation in language choice. This finding is in line with the problematic and seldom straightforward relationship between attitudes and behaviour other researchers have found (cf. e.g. LaPiere 1934, Wicker 1969, Bem 1972, Macnamara 1973, Nuttin 1975, Gardner 1985). We have tried to show that the absence of a meaningful correlation between attitude and behaviour, and the problematic position of attitudes in a causal model explaining variation in language choice, is not related to the disturbing influence of a number of factors, obscuring what is in essence a much higher and theoretically interesting correlation. It is rather the nature of the attitude concept itself which makes it unfit as a

tool for the explanation of language choice behaviour. As to the research project from which data were drawn here, it is evident that the above has not provided evidence for the necessity to include attitudes in the research design. Of course, the limitations of this study leave ample opportunity to disregard these findings and to go on considering attitudes an important factor for the understanding of linguistic behaviour. We would like to point out, however, that to our knowledge, no clear empirical evidence in support of this point of view has ever been offered. Be it that only research in which the attitude concept is operationalized in a more adequate manner than what was done here can form the empirical basis for more definite claims, we believe our results to be convincing enough to tip the balance in the direction of the sceptics.