

Oates' theory of Reverse Speech: a critical examination

Mark Newbrook & Jane Curtain

David Oates' theory of Reverse Speech

In this paper we comment on David John Oates' hypothesis of Reverse Speech (henceforth RS) and its applications, and report on a small experiment which we conducted. For information on RS we draw mainly on Oates' 1996 book *Reverse Speech: Voices from the unconscious* (Promotion Publishing, San Diego).

Oates, Australian-born but now residing in California, claims to have discovered RS, a previously unreported human language phenomenon. According to Oates, as the brain is constructing and delivering the sounds of speech, two messages (normally in the same language) are communicated simultaneously: one is communicated forwards and is what everyone hears and responds to consciously, while the other is communicated in reverse and is what people hear and respond to unconsciously. It is this reversed form that Oates calls Reverse Speech (RS). Oates alleges that the reversals can be heard as clear, grammatical statements (usually brief) which are mixed in amongst some gibberish. RS is accessed by recording a section of forward speech (henceforth FS) and playing the recording in reverse.

Oates claims that the content of reversals is nearly always related to the equivalent FS dialogue. He believes that RS often gives additional information to accentuate or strengthen the FS speech; it also tends to reveal an individual's unspoken thoughts which may be in total contradiction to their conscious FS. Therefore, it can be used as an effective tool by counsellors, legal professionals, parents, teachers, politicians, etc, to discover unspoken truths. Oates himself is currently training individuals to become RS analysts for such purposes. Many of the RS sequences posited by Oates appear rather obscure and Oates considers that the messages in question are couched in metaphors, which of course require elucidation by RS analysts.

Oates believes that very young children begin to produce coherent RS (in the form of reversals of 'babbling', etc) well before they produce normal FS in their first language (as early as midway through their first year, indeed).

If RS really exists, the consequences for our view of human linguistic and mental activity are (as Oates himself says) very major.

Methodological and theoretical problems and implausibilities

Investigation of Oates' claims is hindered by a number of obscurities in his discussion. The most important of these involves what appears to be a crucial methodological and theoretical inconsistency.

Oates states that in the early stages of his research he tried to determine whether the cases of RS he had noted were, in fact, the result of what he calls phonetic coincidence, by which he means the 'accidental' occurrence of very short sequences (typically single short words) which are (almost) the same in FS and RS (ie 'phonological palindromes', eg dad) or where the reversal of the FS sequence yields another equally possible sequence (so that there is a pair of corresponding forms, each of which is (approximately) the reversal of the other; eg say / yes). He calls these phenomena (both types) coincidental reversals, and does not regard them as genuine RS.

Oates is not consistent as to which sequences do and do not count as coincidental reversals. More importantly, however, his distinction between 'genuine RS' and coincidental reversals is incoherent. The definition which he provides for genuine RS involves reference to 'the phonetic construction of the forward speech sounds as they were said in the instant they were captured on tape' (Oates 1996: 15). Unfortunately, this definition applies equally well to Oates' 'coincidental reversals', and indeed to any reversal of an FS sequence.

This distinction is, in fact, part of an attempt by Oates to claim that, in cases of genuine RS, one and the same FS sequence, uttered in very much the same way, may emerge as quite different RS sequences on different occasions (Oates 1996: 33-34); he is therefore concerned to exclude cases such as dad and say / yes where this is obviously false. But the suggestion is quite implausible: there is nothing present in RS other than reversed FS sequences, which will obviously differ only to the extent that the FS differs.

This is one feature of Oates' theory which is very implausible (we shall list some others below). It also reduces the reproducibility of his investigations, in that evidence that a given FS sequence did not produce the RS sequence posited by Oates when reversed could be countered with the claim that there was no reason why it should produce the same RS sequence on different occasions. Although we do not accept this, we worked only with the recordings pro-

vided by Oates himself in our own experiment, so as not to invite such objections.

There are a number of other implausibilities in Oates' theory (Oates' claims are all from Oates 1996):

(a) Reversals of FS are unlikely to yield coherent sequences in the same language; the structures of sound systems work against this. There are only a few exceptions to this, and the very few 'genuine' cases of RS that actually work are among these.

(b) Minor differences of accent between speakers and differences in the emotional state of a speaker can have only minor effects on FS and hence on reversals (see above), contrary to Oates' claims.

(c) Again contrary to Oates' claims, the frequency of RS cannot depend on the mode or style of the discourse; because the only relevant factor is the sounds of the FS sequences (see above).

(d) RS cannot occur at a different rate from FS, as Oates claims, for the same reason.

(e) It is difficult to see how the vastly complex linguistic and psychological systems which would be needed for the production of RS could have escaped so completely the notice of scholars in these fields (especially when they would have to operate in all languages).

(f) If Oates' claims about the production of RS by young children are correct, a great deal of what is taken to be known about child language acquisition and cognitive development must be utterly wrong.

Assessment of factual claims made in support of the RS theory

Despite these basic implausibilities and problems with the theory, it is nevertheless possible in principle that it is in fact correct, at least in part. The only empirically sound way to test this is obviously to conduct an experiment. We decided to replicate Oates' initial experiment (Oates 1996: 14-15). An additional variant was introduced which investigated the possibility that the participants' decisions would be influenced if they were told that an intelligible sentence was not necessarily present.

Forty linguistically naive subjects, all of whom were native speakers of English, and none of whom were familiar with the alleged RS phenomenon, participated in this experiment. The subjects were haphazardly divided into four groups of ten (A-D) and each group experienced a different set of procedures.

Six short recordings of alleged RS sequences were taken from Oates' audio tapes. These recordings were selected as they were among the examples Oates frequently refers to in his publications and tapes, and were therefore thought to be among those Oates favours to support his claims. By selecting the examples upon which Oates places the most weight after many years of promoting RS, we were of course disposing our study in favour of confirming Oates' hypothesis. However, by the same token, such a selection would also render any negative findings more strongly conclusive. Similarly, the sequences selected

were not hidden in larger sequences containing 'gibberish' - another aspect which favours Oates.

The recordings were selected from three groups: two were taken from the alleged RS of well known adult male celebrities; two were taken from the alleged RS of unknown adult male speakers; and two were taken from the alleged RS of Oates' infant daughters. The recordings were played three times (at different speeds) in the following order:

I have an older sister.

Man will space walk.

Daddy loves Mum.

I skinned them all.

I now come here.

Someone saw the weapon.

Group A participants were provided with a list of the six alleged RS sequences and were asked to indicate whether they could hear any of the sentences, words or syllables specified on the list. Group B participants were provided with a list of sequences which were entirely different from the RS sequences alleged by Oates, but which were similar in terms of the number of syllables and the quality of vowel sounds within each sequence. These pieces were as follows:

My man can go at Easter.

Bats hit cave walls.

Mandy hugged them.

I still was poor.

My house was queer.

Nothing more can happen.

The selection of these bogus RS sequences represents a modification to Oates' own experiment; it appears that his bogus sequences bore no resemblance to the 'genuine' RS sequences other than the number of syllables.

Group C participants were not provided with a written list of the alleged RS sequences but were, however, told that an intelligible sentence was present in each of the six recordings, and were asked to record any such sequence they could hear. Group D participants were also not provided with a written list of the alleged RS sequences. However, they were not told that there was an intelligible sentence in each of the six recordings; they were told that there might be. This group, therefore, represented a new variant on the procedure which Oates employed.

Each subject received a score out of a possible six 'correct' (target) responses for complete sentences, a score out of a possible 24 'correct' responses for words, and a score out of a possible 29 'correct' responses for syllables. Independent-samples t-tests were performed to compare the responses between the groups for the mean number of 'correct' sequences provided.

As Figure 1 suggests, Group A subjects provided a much greater number of 'correct' sequences than did the other three groups, Group B subjects provided a greater number of 'correct' sequences than

did Groups C and D, and Group D subjects provided a greater number of 'correct' sequences than did Group C. Statistical analyses revealed that most of the differences observed were indeed significant.

An interesting result is that the Group D participants (who were told that there might be an intelligible sentence in each recording) provided an overall higher mean number of 'correct' responses than did the Group C subjects (who were told there would definitely be an intelligible sentence in each recording). Although one would reasonably expect the Group C participants to try harder than the Group D participants to find such sequences, even where the evidence for them was quite weak, the reverse was found. One possible explanation for this is that the Group D participants concentrated very hard to hear such sequences, and accordingly even imagined some to exist, whereas the Group C participants initially believed the sequences would be obvious, and subsequently gave up trying to hear such sequences when their alleged existence proved difficult to hear.

The other results are less difficult to explain. It would seem that the power of suggestion is an important factor in the recognition of RS sequences, as in all cases Groups A and B participants provided significantly more target responses than did Groups C and D. The analyses suggest that if individuals are told what they might expect to hear, they will often accept that they have heard these sequences - particularly if the number of syllables is the same and the vowel qualities are similar. Although the Group B participants (who were informed of bogus sequences) did not provide as many 'correct' responses as the Group A participants (who were informed of Oates' proposed sequences), this can be explained by the fact that Oates' sequences, whether genuine or not, provide a better representation of the sounds than do the bogus sequences. For any FS sequence, there will obviously be some alleged RS sequences which are more readily heard than others, and we do not deny that in some cases Oates has been adept at finding such sequences.

Oates (1996: 14-15) is not entirely specific in the summary of findings he provides for his alleged controlled experiment: he does not disclose specific

quantitative figures, nor does he reveal any analyses which he might have conducted. In the absence of such information, it is difficult to compare the results of the current experiment with those obtained by Oates. We can only conclude that the current experiment, albeit informal, was analysed more scientifically, and is therefore more reliable.

Obviously, our findings do not support Oates' claims; there is no evidence that listeners can hear the alleged RS sequences unless 'prompted' in advance.

Two further connected points must be made here.

Firstly, it is important to note that even Oates asserts that the subjects in his Group 3 were only able to hear and transcribe 'key words' in the alleged RS sequences, even after three listenings (Oates 1996: 15). He does not specify how many words were generally heard or transcribed in this way, and apparently leaves it to the reader to im-

agine which words were involved. He does not even provide a definition of the word key in this context. Taking his statements literally, it is quite possible to conclude that his subjects had only a little more success than our own. Secondly, there is a prima facie near-contradiction between Oates' claim that his subjects had what he deems to be a considerable measure of success in identifying RS sequences without prompting (which of course he must claim if he is to suggest that his experiment confirmed his hypothesis) and the claim he makes elsewhere (see below) that it takes several months for most people to learn to hear RS sequences 'correctly'.

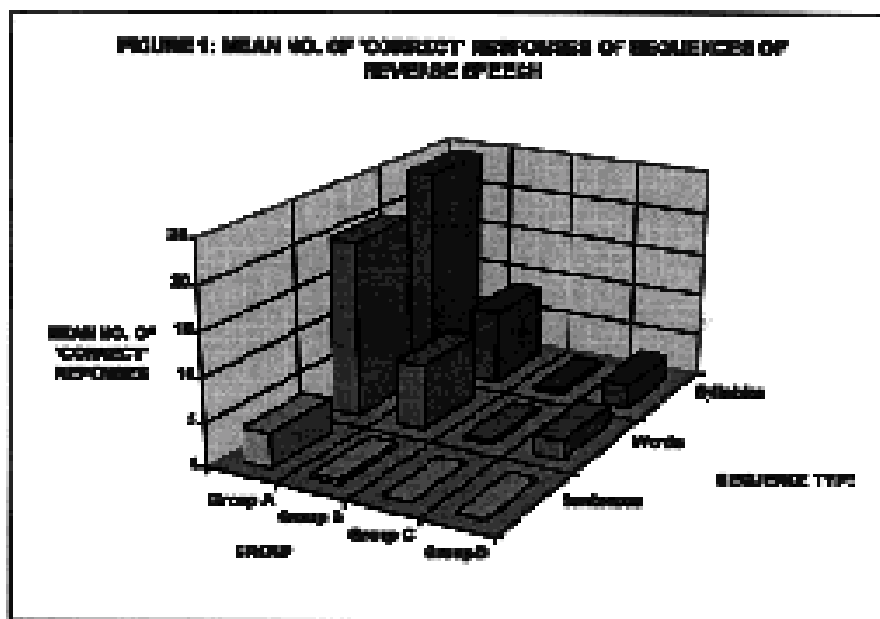
There are a number of other empirical tests, of varying degrees of formality, which can be applied to Oates' material; some of these have been carried out (largely confirming the above findings) and others are envisaged.

Applications and claimed implications of RS

As well as all these problems with the basic theory of RS, there are a number of aspects of its application which are problematic or alarming:

(a) Oates pays little attention to the findings of mainstream psychology, but develops enormously complex, poorly supported psychological theories, notably on the role of the metaphors

FIGURE 1: MEAN NO. OF 'CORRECT' RESPONSES OF SEQUENCES OF REVERSE SPEECH



which he claims to find in RS and associated structures in the mind.

(b) Many of the concepts which Oates associates with RS are of a 'New Age'/'fringe' nature: the 'collective unconscious' and access through this to 'ancient mysteries' and the like, prediction of the future (through RS), telepathy/ESP, channeling, Neurolinguistic Programming, and also some idiosyncratic and extreme versions of the Christian world view (including the suggestion that by paying attention to RS one can avoid sin, live very much longer than is now usual, etc.).

(c) Oates and his followers have been applying the analysis of RS in various practical domains, some of them involving matters of great sensitivity and potential harm. If RS is not genuine, this work is valueless at best and quite possibly extremely damaging. The areas in question include:

- i. child psychology (Oates 1996: 60-73)
- ii. alleged cases of child molestation (Oates 1996: 68-70)
- iii. other alleged offences (Oates 1996: 188-96)
- iv. the analysis and treatment of sexual and personal problems (Oates 1996: 125-69)

(d) The RS enterprise has a very overtly commercial nature; for instance, one hour of an analyst's time working with a tape costs at least US\$125.00, the fees for courses run to thousands of dollars and 'reversing machines' are sold at around US\$200.00. Students are required to sign forms excluding refunds and threatening that all unpaid fees will be due immediately in the event of withdrawal.

(e) RS practitioners are 'certified', and this certification has reportedly been recognised officially at least in California. However there is no evidence that those who are certified have any of the other relevant knowledge or skills.

(f) The tone of much of the RS literature is highly dogmatic, and Oates also compares his 'discovery' with past scientific breakthroughs (as is common in fringe literature).

(g) In his promotional material, Oates employs a number of suspect practices. Most obviously he repeatedly informs listeners of the RS sequences which they should expect to hear, which as we have shown has a major effect on whether or not they accept his conclusions. In this context it should be noted that Oates repeatedly claims that untrained listeners cannot readily hear RS without such help; but this would not be true for listeners with phonetic training (if RS were real), and Oates' position here seems to contradict his earlier claim (see above) that untrained listeners could readily hear RS sequences in his initial experiment. It does appear that Oates is trying to 'have it both ways'.

(h) Oates (1996: 188-189) claims that the Australian police have used RS in their work, and elsewhere he claims that other government agencies have done so. There appears to be no evidence of

this and in fact there is some evidence to the contrary.

(i) Oates' material features many quotations endorsing or supposedly endorsing his work, but many of these appear to come from his own associates and they contain many obscurities. Some of the comments cited appear irrelevant. Oates does not list his own qualifications, even though he makes many emphatic statements about a wide range of subjects.

Many of these criticisms can equally be made about the work of Oates' followers, much of which is available on the Net.

Oates' knowledge of linguistics

Given that RS is supposed to be basically a linguistic phenomenon, one might hope that - whatever his shortcomings in other fields - Oates would prove to be well informed about linguistics. However, this is not the case. We have already seen that many of his claims about RS are implausible on linguistic grounds, and in fact it does not appear that he has read more than superficially in the linguistic literature. Other obvious errors (etc.) made by Oates involve: very superficial and inaccurate treatments of matters of intonation, various other errors involving the description and analysis of pronunciation, a naively folk-linguistic approach (at least terminologically) to the issue of grammaticality (accompanied by a neglect of some grammatical issues which would be of great interest if RS were real), acceptance of folklinguistic errors on the origins of languages, a rather cavalier attitude to items in foreign languages, a naive linking of RS with palindromes ('reverse' phenomena involving written language), the apparent (ludicrously wrong) suggestion that the central aspects of FS are completely consciously controlled (in contrast with RS, which is unconsciously generated), etc.

More specifically, Oates (1996: 102-104) lists six 'guidelines' or criteria on which he claims to rely in determining whether or not a given sequence in a reversal actually counts as genuine RS. These criteria involve linguistic features of the sequences such as numbers of syllables, audible spaces and junctures, individual phonetic segments and intonation contours. On this basis Oates rates reversals on a scale of 5-1, with the top rating of 5 being reserved for reversals which meet all six criteria. Even these, it should be noted, do not appear especially impressive to us; but in addition the six criteria are all seriously flawed. Three of them are invalid (they do not apply to FS), two are frequently not met in alleged cases of RS, and the sixth is obscure.

Given all this, it seems unfortunate that Oates did not make more use of linguistic expertise in developing his theory.

Conclusion

We believe that we have given Oates' ideas a fair examination in this paper. There are a number of

specific issues which we have not examined; we hope to tackle some of these in later papers. There are also a number of issues which fall somewhat outside our range of professional expertise (*qua* linguists) and which might be of interest to experts in the relevant disciplines. However, many of these latter issues do not arise in practical terms unless the basic theory of RS, which is essentially a linguistic theory, 'holds water'. We think we have shown above that the status of the RS theory is theoretically and methodologically problematic, that the theory's factual claims could very well turn out to be largely false and certainly are not supported by our own investigations, that the theory is implausible in various ways, that the background knowledge of linguistics displayed by the originator and promoter of the theory is inadequate, and that there are various other problems associated with the theory and with the associated practices.

Given this, we do not recommend that the RS theory be accepted (unless much better evidence and argumentation is advanced in support of it) nor do we suggest that any action (especially in sensitive or important areas of activity) be taken solely on the basis of any aspect of this theory or any specific claims associated with it.

This is a summarised version of a much longer paper which we have prepared by way of a preliminary report on a package of materials promoting David John Oates' 'Reverse Speech' theory which was sent to Victorian Skeptics for comment. The full paper will be made available on request. We would like to express our thanks to Kieran Power for his assistance with the technical aspects of the project.

Full details of all statistical analyses employed are described in the longer paper mentioned above. ➔

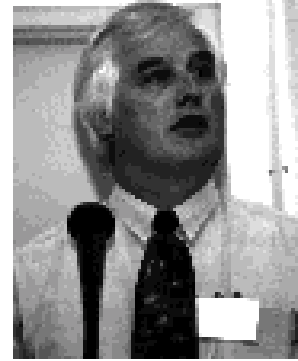
...Salting from p 39

What ought a layperson do who contemplates investing in a mining venture, wishing to identify the present unintentionally (accidental) or intentionally (concocted, fraudulent) misleading or falsified information supplied to him/her? The simple answer is to engage an honest, highly-qualified geological expert to examine all aspects of the venture: a truly reliable professional report would be the result.

References

McKinstry HE 1948. *Mining Geology*. Prentice Hall, Englewood Cliffs, NJ.
 Parks RD 1957. *Examination & Evaluation of Mineral Property*. Addison-Wesley, Reading, MA
 Rickard TA 1941. "Salting". *Engineering & Mining Journal*, v 142, No 3 (March), p.42; No 4 (May), p. 52; No 5 (June), p. 50.
 Wolf KH 1988a. "Ore-related diagenesis - an encyclopedic review". In: GV Chilingarian & KH Wolf (Eds), *Diagenesis* Vol I, Elsevier Science Publishers, pp. 25-53.
 Wolf KH 1988b. "Introduction: a scientific - philosophical view of methodology". In: GV Chilingarian & KH Wolf (Eds). *Diagenesis*, Vol 11 pp.141. ➔

Geological Society honours Ian Plimer



Professor Ian Rutherford Plimer has been made an Honorary Fellow of the Geological Society. The Society bestowed this honour upon Professor Plimer, of the University of Melbourne, Australia for his courageous stand against "creation science".

Professor Plimer was nominated for the honour by Dr Richard Fortey, FRS of the Natural History Museum, London, Dr Bryan Lovell of the University of Cambridge and Professor Bruce Sellwood of the University of Reading.

Professor Dick Selley of Imperial College and acting Chairman of the Society's External Affairs Committee said:

Most geologists ignore creationists, and do not believe that it is worth joining them in serious debate. This is an extremely dangerous attitude and we are already seeing the price that must be paid by adopting it both in the USA and Australia. Professor Plimer is a man of enormous courage, who has put his money where his mouth is. We salute his courage.

The Geological Society counts just over 80 Honorary Fellows among its membership of over 8,600, including another noted scientific communicator, Sir David Attenborough.

Notes

1. Ian Rutherford Plimer is Professor of Geology and Head of the School of Earth Sciences in the University of Melbourne, Australia. He is the author of over 100 learned papers and was the 1994 winner of the Michael Daley Award for Science, Technology and Engineering Journalism. In 1995 he won the ABC Eureka Prize for the Promotion of Science. He is the author of a book on creationism in Australia: *Telling Lies for God* (Random House, 1994).
2. The Geological Society is the UK organization representing the interests of professional earth scientists and is the UK's premier forum for debate in the geosciences. It is the oldest geological society in the world, and was founded in 1807. It has over 8,600 members worldwide.

Geological Society Web Page
<http://www.geolsoc.org.uk> ➔