Naming Faces and Objects Without Comprehension—
A Case Study

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The case of a 74-year-old woman with Alzheimer’s dementia is presented. Her ability to identify objects and faces was investigated, and it was shown that an item’s name could sometimes be recalled in the absence of any appropriate semantic information. Performance on multiple-choice tests of semantic knowledge for items that were named was not above chance levels, even though the semantic test immediately followed the naming response. These data appear problematic for current models of face and object processing, where access to a name is dependent upon prior access to information about the identity of the item. However, in the trials where the patient named faces without category information, she appeared to know that the people were celebrities, which suggests that this limited information may allow access to the name and that the degree of semantic access required when naming faces is lower than previously thought.

INTRODUCTION

This paper reports the study of an Alzheimer’s patient who on some occasions named famous faces without being able to give more information about who the person was. Even more frequently, she would name pictures of objects correctly without demonstrating access to...
appropriate semantic knowledge. These observations are theoretically important and so are described in detail here.

Current information processing models of object and person identification state that access to a name is dependent on prior access to the semantics associated to the item (e.g. Seymour, 1979; Warren & Morton, 1982, for objects; Bruce & Young, 1986; Ellis, 1986; Hay & Young, 1982; Rhodes, 1985, for faces). This feature of the models derives from earlier models of word recognition (Morton, 1969, 1979). It means that if, upon perceiving a stimulus, one is able to name it, one should always be able to give supplementary information about it, regarding who or what it is. The reverse is not the case however: It is possible, according to the models, to identify an item by recalling information about it, while being unable to recall its name. This hierarchical organisation will be referred to as the semantics-name sequence (SNS).

Names of objects are not generally difficult to recall for normal adults and so evidence for the dependence of name recall on identity information recall for object recognition has come mainly from reaction time studies on normal adults (Potter & Faulconer, 1975) and studies of neuropsychological patients (e.g. Kay & Ellis, 1987). People’s names, on the other hand, cause recall problems in everyday life, and the relationship between the recall of names and of identity information of famous people has been much studied.

Considerable evidence from many paradigms has shown that naming a person is more arduous than categorising them semantically. There have been diary studies where subjects were asked to record “incidents” in everyday life where person identification did not occur smoothly. Although there were plenty of instances where correct identity information was recalled about a person while not recalling the person’s name, there were none the other way around (Schweich et al., 1992; Young, Hay, & Ellis, 1985).

Reaction time studies have shown that decisions relating to the names of famous faces are slower than semantic decisions, even for a small set of faces repeated throughout the experiment (Johnston & Bruce, 1990; Young, McWeeny, Ellis, & Hay, 1986).

Studies of person naming in the lab have also provided evidence in favour of the SNS. Hay, Young, and Ellis (1991), for instance, presented subjects with a sequence of faces. For those that they found familiar they were asked questions: whether or not they knew the face, whether they could recall details about the person, including the name. Not once in two experiments did a subject name a face correctly without also being able to give correct semantic information about the person. Using a task where subjects associated names and occupations to unfamiliar faces, McWeeny, Young, Hay, and Ellis (1987) showed that occupations were recalled better.
than names over the experiment, even for a label such as "baker," which was used both as an occupation and as a name.

In recent years it has been demonstrated several times that, after brain injury, names can be unrecallable whereas the recall of other identity information is preserved (e.g. Carney & Temple, 1993; Flude, Ellis, & Kay, 1990; Lucchelli & de Renzi, 1992; Semenza & Zettin, 1988, 1989; Shallice & Kartsounis, 1993). On the other hand, according to the models, a patient with problems recalling semantic information about people should also have problems recalling names. This was indeed the case for the patients reported by De Haan, Young, and Newcombe (1991), Ellis, Young, and Critchley (1989), and Hanley, Young, and Pearson (1989).

Thus, the evidence is wholly consistent with the separation of the name from other identity information. There are potential problems for the notion of a separation of the name from other information, however.

Firstly, there is a case in the neurological literature where faces appeared to be named in the absence of identification. One of the tuberculous meningitis patients reported by Williams and Smith (1954) named all the people in a photograph, while having no idea where he knew them from. This observation was made before the functional models of visual cognition had been proposed and so it was not explored further and is not clearly interpretable. It is possible, for instance, that the patient would have been able to say that the people were Army colleagues, while failing to recall the precise circumstances where he had encountered them.

Secondly, there are papers reporting patients whose object naming performance was preserved relative to comprehension. For instance, Kremin (1986) reported two aphasic patients who had almost entirely preserved oral naming skills and yet impaired performance on a written word association test and on a picture association test.

Heilman, Tucker, and Valenstein (1976) reported the case of a transcortical aphasic patient who had little difficulty naming everyday objects but who had severe problems of comprehension. One test consisted of a central target picture (e.g. an axe) surrounded by four other pictures: a semantically similar one (e.g. a saw), a visually similar one (e.g. a flag), and two visually and semantically dissimilar ones. The instructions, which were explained both verbally and nonverbally, were to point to the semantically similar object. On 78 trials, the patient got just less than 50% correct, which is above chance, but impaired relative to controls. Thus, object naming appeared to be preserved relative to comprehension in this patient.

Shuren, Geldmacher, and Heilman (1993) showed that confrontation naming in three Alzheimer's patients was preserved, relative to verbal fluency and use of content words in speech. For one of the patients, this finding was followed up in detail. The patient correctly named 290 line
drawings of objects belonging to a wide variety of categories, e.g. occupations, animals, kitchen utensils. On a subsequent test the patient was presented with a stimulus picture and had to say which of three or four other pictures was “best associated” with it (e.g. a picture of a foot had to be matched to either a sock, a glove, or a fan). All the objects in this test had previously been named by the patient and yet the correct choice was made on only 80% of trials, compared to 95% for all control subjects.

These papers have been interpreted as evidence for a nonsemantic path in naming; it should be noted, though, that in all of them the naming test and the semantic tests were administered separately, and so it is not clear that these patients were unable to classify semantically when they were able to name the objects. This point is theoretically important, because in the box-and-arrow models, access to a name is dependent on immediately preceding access to the semantic system. A demonstration that an object that is named on one occasion cannot be classified semantically on a subsequent occasion is not incompatible with the cognitive models because a temporary block may have occurred during the semantic tests; what would falsify the models is a demonstration that a face or an object has been named, and at the same moment, semantic access has not been achieved. A further complication with the interpretation of Kremin (1986) and Heilman et al. (1976) is that the naming task and the semantic task did not involve the same items.

There have been recent neuropsychological accounts of the preservation of proper names in aphasia (Cipolotti, McNeil, & Warrington, 1993; Semenza & Sgaramella, 1993). These cases are presented as evidence of a dissociation between proper name and common name production. Although no mention is made in either of the papers of falsifying current visual cognition models, the papers will be discussed later in order to avoid any confusion about proper name preservation.

It is important to realise that not all logically possible cases of proper name preservation would falsify the SNS. Consider Semenza and Sgaramella’s patient, who was jargonaphasic, and who in spontaneous speech and in naming to confrontation tasks produced incomprehensible phoneme strings except for occasional proper names. It is thus difficult to know what he understood of the proper names he uttered spontaneously. In order to falsify the models, naming with simultaneous lack of semantic access needs to be demonstrated. The case shows that under some circumstances it is possible for proper name production to be more fluent than common name production, but this does not falsify information processing models.

Similarly, Cipolotti et al. described a severely aphasic patient who for a while showed better (written) naming of country outlines than of objects.
For instance, the patient could not name a picture of a key or a clock, but could name the outline of Spain and India. Thus, the common names that were not named were not associated to the proper names that were named. The key demonstration for falsifying the cognitive models would be the recall of a proper name in the absence of recall of a common name associated to the same referent.

To summarise, the SNS would be falsified if and only if recall of the name of an object or person occurs while at the same time recall of the meaning of the stimulus is not achieved. Access to the meaning of the stimulus might reasonably be assessed by ability to describe its identity verbally. A more lax criterion might be to assess comprehension of a stimulus by means of a categorical multiple-choice task. Furthermore, in theory, a single trial where a face was named in the absence of correct category information would falsify that part of the current face processing models.

In Alzheimer’s disease, it has been claimed that a naming deficit is the characteristic linguistic symptom. An influential model of the progression of Alzheimer’s disease is the stage model, where severity of the disease is highly correlated with severity of the naming deficit (e.g. Lishman, 1978). However, Bayles and Trosset (1992) demonstrated that the correlation between severity of anoma and severity of dementia is rather low. On a sample of over 100 patients the severity of dementia explained only 7% of the total variation in naming performance. Combining 2 measures of disease severity still accounted for only 35%, which led them to conclude that naming deficit severity and Alzheimer’s severity are only loosely related. This raises the possibility that comprehension deficits coexist with preserved naming in some cases of Alzheimer’s disease.

Shurer et al. (1993) provided data from object processing on this point, and the patient reported in this paper indeed demonstrates preserved object and face naming ability with faulty semantic access on some trials.

**CASE STUDY**

A 74-year-old woman, Mme. DT, was referred to Hôpital Michallon, Grenoble, in March 1992, having suffered from memory difficulties for a year or so, according to her husband. She had seven years of schooling, obtaining the “certificat d’études primaires.” She was disoriented in time, her guesses about the current year varying by decades. On the other hand, she was able to say that she was in a hospital department in Grenoble, and so had retained awareness of place. Her speech was fluent yet not very rich. Her ability to carry out simple requests was very poor in the clinical situation, and there was evidence of grossly disrupted semantic memory function. The patient was anosognosic, however, and did not
NEUROPSYCHOLOGICAL TESTING (BEGINNING MARCH 1992)

The patient was tested with a battery of standard neuropsychological tests. On two tests of intellectual function, she was severely impaired. She scored 13/30 on the Mini Mental State test in March 1992 and 12/30 when tested again 6 months later, and 38/96 on the Batterie d’Estimation Cognitive. Her span for visually presented words was three, and for auditorily presented words was four.

The patient was unable to initiate simple gestures on command, e.g. brushing teeth, nor was she able to copy them properly.

When asked to generate as many names of animals as possible, she produced seven in two minutes. Five pieces of clothing were named in two minutes, but no words beginning with the letter “m” were produced and only two beginning with “f.” The patient was unable to write anything, either to dictation or spontaneously.

The patient was very impaired at even simple arithmetic, getting only one trial right in all the times she was tested.

Mme. DT’s speech was fluent if not very rich, and there were no problems with either articulation or syntax. Repetition of complex words was perfect (20/20), as was reading aloud. Picture naming was tested with the “Dénomination Orale 80” test, which is based on Snodgrass and Vanderwart’s (1980) line drawings and has norms for French adults according to age, gender, and educational level (Metz-Lutz et al., 1991). There was evidence of a slight impairment; she correctly named 61 out of the 80 images, where 64/80 is the cutoff point for her educational level, age, and gender. Nine of the 19 errors were semantic paraphasias.

A spoken word-to-picture matching task was used, where eight pictures were placed in front of the patient; the task was to say whether a picture corresponding to the spoken word was present in the array. Only four words corresponded to one of the pictures. When the four other words
were unrelated distractors or phonologically related to the words, Mme. DT made no errors. However, when the distractors were semantically related to the target, the patient designated all the semantic distractors, thus scoring at chance level.

Definitions of words were poor. For example, a carpenter was defined as a “worker” and a violin as “an instrument,” and no further details were forthcoming.

On a lexical decision task with plausible misspellings of real words as distractors she scored 90% correct.

In summary, Mme. DT at this stage (Spring 1992) had problems of comprehension and was temporarily disorientated. Bearing in mind the fact that her naming impairment was only slight, it was possible that she would name objects and people without demonstrating comprehension of them. Since a clear demonstration of such a phenomenon would be of theoretical interest, Mme. DT’s naming and comprehension performance became the focus of study.

In the face and object identification tests following, Mme. DT was asked to name the items if she could, and to give as much other information about the item as possible. Her capacity to comprehend items that she had named was tested immediately after she had named them. Thus the condition of simultaneity demanded by the information processing models was fulfilled.

**Familiar Face Processing**

Her ability to identify famous people was tested by presenting high-quality black-and-white photographs of a selection of the faces of 20 of the most famous people in France (c. 1992). Most of the people had been famous for 20 years or more (e.g. Charles de Gaulle, Georges Brassens, Alain Delon, Johnny Halliday), whereas some were more recent celebrities (e.g. Michel Rocard, Christine Ockrent, Brice Lalonde). For each face, the task was to say “who the person is.” On all trials where a face generated a sense of familiarity, the patient was encouraged to give as much information about the person as possible. When she gave correct category information and also named the person, the next face was presented. Most of the faces in the test were very famous and so it was reasonable to assume that Mme. DT would have, at one time at least, known much about each of them. Thus when she failed to give correct category information about a face, the experimenter’s enquiries lasted for up to 10 minutes, probing to elicit information about the person’s identity or about their name. During this time, the photo was left in front of the patient. A five-choice test for the person’s profession was offered to the patient when such information could not be recalled.
The probes for semantic information and the name made the task demanding for the patient, and so not all faces could be presented in each session. Each of the 20 faces was presented at least twice; 2 faces (Serge Gainsbourg and Catherine Deneuve) were presented on each occasion because of Mme. DT’s performance on those items (see following).

In the task, a variety of difficulties was observed:

**Failure to Recognise.** On occasions, extremely famous people such as Charles de Gaulle would be classed as unfamiliar (26 times).

**Familiarity Only.** Faces were judged familiar, but no further information could be recalled about them (8).

**Wrong Person.** Once Michel Sardou was mistaken for Johnny Halliday (both are French singers) (1).

**Correct Semantic Information.** Correct category information was given about a face, but the name was unrecallable, even after lengthy recall attempts (8).

**Correct Semantic Information and Correct Naming.** On only seven occasions did Mme. DT give correct category information and the correct name (7).

All these face identification difficulties have been documented by normal subjects participating in naturalistic "diary studies" of problems experienced in identifying people in everyday life (Young et al., 1985; Schweich et al., 1992).

The final category of error made by Mme. DT (see following) was not, however, recorded at all in either of the 2 diary studies, which involved a total of 77 subjects monitoring their person identification performance over either 4- or 7-week periods. This category is apparently inconsistent with the face processing models’ claim that access to a name is dependent upon prior access to the semantics associated to the person.

**Naming a Face without Other Information about the Person.** On nine occasions Mme. DT named a face without giving semantic information about the person at any time during the prolonged clinical enquiries about the identity of the face.

An intriguing feature of the results is that only three people were ever named in the apparent absence of semantic information. Eight out of the nine were for two people (Serge Gainsbourg and Catherine Deneuve, four
times each), Christine Ockrent being the other person, named once without correct category information. Serge Gainsbourg was a very popular singer, film director, and actor who died in 1991. He has been famous since the 1960s. Catherine Deneuve is an actress, also known since the 1960s and also very well-known in France. Christine Ockrent is a prominent presenter of current affairs programmes and newsreader, who has been famous for about 15 years.

In order to obtain an impression of the phenomenon which is the focus of this paper, a transcript of one occasion where photographs of Serge Gainsbourg and Catherine Deneuve were presented to her follows.

Transcript of Clinical Session with Mme. DT, October 1992 (Translation from the French)

Interviewer: Who is this? (putting a photo in front of the patient)
Mme. DT: I know it’s Gainsbourg. That’s all.
Interviewer: What does he do?
Mme. DT: I don’t know. He’s a ... What did he do? I can’t remember anymore. I’m not really used to this. I know it’s Gainsbourg, but what he did ...
I: And why do you know him?
Mme. DT: Because he was talked about, because he is talked about sometimes, but otherwise I don’t have contact with this person.
I: And why do we talk about him?
Mme. DT: I don’t know. Not at all. I know it is Gainsbourg and that we talked about him. That’s all. I don’t even know whether he is still alive.
I: No, he is dead.
Mme. DT: Right, let’s not talk about him any more then! (laughs)
I: I am going to propose some professions to you and you tell me which one corresponds to this man (shows the patient a list of five professions). Among these professions, is he a writer, journalist, actor, singer, or politician. In your opinion, what defines Serge Gainsbourg best?
Mme. DT: (looks at the list): I can’t really see. I can only see Gainsbourg, that’s all, otherwise ...
I: Among these five possibilities, which one would you say? ... writer, journalist, actor, singer, or politician.
Mme. DT: Singer rather than the others ("Plutôt chanteur").
I: Singer rather than the others? ("Plutôt chanteur?").
Mme. DT: I think so.
I: Yes that’s right. He has written and he sang a lot.
Mme. DT: He sang a lot, yes. Now, I don’t know, I believe that he is ...
I: He is dead now.
Mme. DT: Yes, he is dead, I think.
I: Look at this person. Can you tell me [its] name?
Mme. DT: Catherine Deneuve. Isn’t it?
I: Yes, that’s it, very good. Right, what does Catherine Deneuve do? What do you know about her?
Mme DT: Not a lot. I mean, she is talked about but I don't know too much.
I: What does she do? Why do you know her?
Mme DT: Because she is talked about, of course.
I: Often?
Mme DT: No, but we're used to seeing people so we talk about her a bit, but . . .
I: Where do you see her?
Mme DT: Here I see her just like that (looks at photo, misunderstanding question).
I: No, but normally, in life?
Mme DT: No, I am not in the habit of having contact with this sort of person, you know.
I: Right, we'll do as we did for Serge Gainsbourg. Among these choices, which corresponds to Catherine Deneuve? (shows the list) Is she a writer, a journalist, an actress, a singer, or a politician?
Mme DT: Catherine Deneuve?
I: Yes. Which one of these is she?
Mme DT: She's a singer.
I: A singer.
Mme DT: I think so.
I: Do you have an idea of a song?
Mme DT: No, not at all. Because I'm not used to . . . no.
I: You see her on television?
Mme DT: Voilà, that's all. We see her occasionally on television.
I: And does she sing sometimes when she is on television?
Mme DT: I don't know, I don't know. I'm not really . . .
I: Is she a newsreader, for example?
Mme DT: No, I don't think so.
I: You don't think so.
Mme DT: No, I don't think so.
I: Does she act in films?
Mme DT: I don't know.
I: You don't know. Does she act in plays at the theatre?
Mme DT: Oh no, I don't think so.
I: You don't think so either. Is she a sportswoman?
Mme DT: I can't really see.
I: OK.
Mme DT: It's not what I am best at, all this ("Ce n'est pas mon job, ça")! Not at all, no, not at all.

This type of conversation was typical on the trials that we have classified as exhibiting naming without comprehension.

For Catherine Deneuve, Mme DT picked out "singer," whereas Deneuve is an icon of 20th-century French cinema. She has sung in a musical film (Les Demoiselles de Rochefort in 1967), yet it would be a most unrepresentative and extremely unlikely combination of exposures to
Catherine Deneuve that led one to think that she could be considered more a singer than an actress. We note, nevertheless, that Mme. DT made this idiosyncratic choice twice, on separate occasions. In addition, having made the choice of singer and when then asked whether Catherine Deneuve was an actress, Mme. DT said “I don’t know.”

Similarly, upon seeing Christine Ockrent’s face, the patient named it but went on to claim that she was an entertainer, and on the multiple-choice test selected two of the five professions—“presenter” and “actress.” The first is correct but the second is not.

On seven of the nine occasions when a face was named and other identity information was not forthcoming, the five names of professions were given to the patient, in both written and spoken form; an unquestionably correct selection of the profession of the person was observed on only one of the trials (Gainsbourg, as described earlier), three times there was an element of veracity (Deneuve twice and Ockrent) and three times the patient refused to choose a profession.

It should be noted that for both Serge Gainsbourg and Catherine Deneuve, there was one session where Mme. DT both named the person and gave correct semantic information; these occasions came in between two sessions where “naming without comprehension” was observed for these items.

For other faces, Mme. DT did give correct semantic information. She described Charles Trenet as “le fou chantant,” an epithet that derives from a stage early in his career, Louise de Funès as a “rigolo” or funny man and George Brassens as a singer whose career was now over.

Object Identification

Picture comprehension and naming was assessed by means of a match-to-sample technique. This test was carried out in four sessions over a two-month period, and the instructions were explained to the patient each time she performed the test. They were often explained during the sessions too, because her poor performance suggested that she had not understood the instructions. The patient was presented with a line drawing of an object, which she was asked to name. Three more pictures were then placed in front of her and she was asked to name them too. Regardless of her ability to name the stimuli, she was asked to choose which of the latter three pictures “went together” with the first picture. The correct pairings were functionally associated, e.g. reference = CHIMNEY, target = sweep, and one of the two distractors was visually similar to the correct choice, e.g. umbrella; another trial consisted of KENNEL—dog, cat, brush.

Mme. DT was far more successful at naming the stimulus than at choosing the correct associate. There were four items on each trial (the
reference stimulus, the target, and two distractors) and she named 102/212. On the other hand she only picked the correct associate on 21/53 trials. She was often unable to provide justification for her choices, and she was not confident about choosing the associated stimulus. Often, items were named without hesitation, only for the matching task to be performed wrongly. Indeed, on 6 trials all 4 stimuli were correctly named only for an incorrect choice to be made, and on only 20% of trials where the reference and the target were named was the correct association made.

Mme. DT’s ability to provide semantic information other than functional information was tested by presenting coloured pictures of common objects to her and asking her to name and classify them. Over 4 sessions, she correctly named the picture on 33/37 trials, and yet on only 13 did she give a correct definition. The errors consisted largely of denials that she had ever known what the object was for and refusals to answer. She demonstrated an inability to answer simple questions regarding the named object. For example, immediately after naming an aeroplane, she was unable to say whether a plane is larger than a car. When presented with a picture of a telephone she named it and, when asked what it was, she said “It’s a telephone, that’s all,” but was unable to give any supplementary information and, when told that she had one in her home, she denied it, though it was demonstrably true.

**DISCUSSION**

The patient described in this paper consistently named pictures of objects without demonstrating comprehension of their function and occasionally named faces without giving other identity information about the person. This occurred despite the prolonged and searching questions put to the patient during this subset of trials. A multiple-choice task did not improve the patient’s semantic performance. She refused to choose on some occasions, whereas on others, the options chosen were not normative answers.

It is important to note, first of all, that this patient is not a case of preservation of the recall of people’s names relative to the recall of person identity information. Recall of a person’s name in the absence of identity information occurred on only a few trials, but overall Mme. DT’s performance on recall of person’s names was very impaired. None, for instance, could be generated on a task of verbal fluency, and Mme. DT named very few in the face identification tests. This is not, therefore, the reverse of the well-documented dissociation where people’s names cannot be recalled but identity information can be (Semenza & Zettin, 1988; 1989; Lucchelli & de Renzi, 1992). In fact, the total number of faces for which the correct name was produced was 16, and the total number for which
the correct occupational category (or other semantic information) was produced was 15. The sample is small but there was no difference between recall rates for names and for identity information in Hodges, Salmon, and Butters' (1993) study of Alzheimer’s patients either.

How might one explain Mme. DT’s inability to give more information about pictures of faces and objects that she had just named? Initially, the discussion will focus on potential artifactual explanations that have no implications for theory.

Two Artifactual Interpretations

Firstly, as pointed out earlier, Mme. DT was temporarily disoriented and was unable to maintain her concentration for long periods of time. This raises the possibility that she would quickly forget what she had just named, thus accounting for her inability to give more information about it. However, this does not allow for the fact that Mme. DT names the same faces without giving semantic information. It is unlikely that attentional shifts should occur only for three faces. In addition, examination of the transcript makes it clear that, during the interviews after naming Gainsbourg and Deneuve, she was focused on the task in hand. For instance, when asked to choose Catherine Deneuve’s profession, she asks “Catherine Deneuve?” before answering.

Secondly, it might be argued that she had such severe problems of comprehension that she couldn’t understand exactly what the instructions for any task were. Indeed, she had difficulty carrying out most of the tasks that we gave her, and instructions were repeated many times in any given task. However, to suggest that this is the reason for her performance on naming and identification tasks is unconvincing because it fails to explain why it was only certain faces that she named without (apparent) comprehension. She did give semantic information about other faces, and so had not interpreted the instructions as forbidding the production of such information, and yet on some trials would be unable even to pick out a profession from a list of five alternatives for a person she had just named.

The problem with comprehension may have been more acute, however, with the object comprehension task. The requirements of this picture matching task are more demanding than those of the face identification task because on each trial there were four stimuli. Nevertheless, rather than refuse to choose, she would select one of the three choices and was not significantly above chance at doing so. However, it cannot be ruled out that the task was simply too complicated for her. She may have named the stimuli because that was in some way a more natural response, and failed to give correct semantic responses because she hadn’t understood that was what we wanted.
More convincing evidence that Mme. DT’s object naming “without comprehension” is not due to problems of task comprehension comes from the naming task, where she was presented with one picture per trial. She correctly named 33 out of 37, and yet despite close questioning was often unable to elaborate on what the object was, to the point where she would be unable to answer simple questions about the item (e.g. “Is an aeroplane bigger than a car?”). Each time Mme. DT named an item she was asked to provide more information about it, and a conversation about the item would proceed, with the interviewer being as non-directive as possible.

Interpreting the Data in Terms of Cognitive Models

These data are difficult to interpret in terms of current cognitive theories. In current models of visual cognition, access to the name of a face or object is possible only after access to its semantics. It has been assumed that, when naming a face, the person’s identity would have been specified even if only the minimum amount of semantic access had been achieved (Bruce & Young, 1986). Mme. DT, however, does not show evidence of access to identity information on some trials where she names successfully.

On the other hand, we can see from the transcript that, even if the patient was unable to provide category information about Deneuve and Gainsbourg when naming them on some trials, she did seem to be aware that they were famous people and not personal acquaintances (“I’m not in the habit of having contact with this sort of person”). Perhaps this vague semantic information is sufficient to allow access to the name. Accordingly, this means that the level of explicit semantic access required for face naming is lower than previously suspected.

Next we discuss three other possible accounts of the phenomenon and argue that they are untenable.

A Direct Route from Input to the Name Code

Shuren et al. (1993) claim that their data are incompatible with models of visual cognition that require semantic access before naming. Their preferred alternative explanation is to invoke a direct route, bypassing the semantic system, to the name from the visual representation. The idea is that this route would allow intact confrontation naming in the context of deterioration of the semantic system, and has been suggested before by Heilman et al. (1976) and Kremin (1986). One problem with the direct route is that it makes the models’ account of the relationship between semantic access and naming difficult to falsify: In a model with a direct route, either semantic information or the name can be accessed in the absence of the other.
A second difficulty is that there is no evidence for its operation in normal subjects. For example, experiments by Brennen, Baguley, Bright, and Bruce (1990) were designed to test for the possibility that a direct nonsemantic naming route for famous people and landmarks could operate in normals. Tip-of-the-tongue (TOT) states were induced by giving subjects verbal descriptions of famous people and landmarks. It was shown that, whereas the initial of the name facilitated name retrieval, a picture of the person or object was not more helpful than more repetition of the TOT-inducing verbal description. Use of a nonsemantic route would, presumably, have resolved a proportion of these TOTs. Furthermore, as shown earlier, there is considerable evidence in favour of the idea that naming is semantically mediated in normal subjects.

**Naming without Comprehension Occurs Only with Semantic Breakdown**

The second problem with a direct route is one that is shared by all potential explanations of naming without comprehension in dementia: Why do normal subjects never name things without knowing what they are? It is this point that leads us to speculate that naming without semantics may occur only when the semantic system is degraded, as it was for Mme. DT. Thus the SNS might hold for intact semantic systems, but not under conditions of semantic breakdown.

One observation that is, however, inconsistent with a semantic degradation is that Mme. DT’s identification of Gainsbourg and Deneuve was not uniform. For both faces she was able to provide correct semantic information during at least one session, and for both faces these sessions were in between two where naming-without-semantics was observed. So, facts that could not be retrieved on two occasions were retrieved in another, intercalated, session.

**Implicit Semantic Access**

Alternatively, it might be suggested that Mme. DT’s semantic information was still present, thus allowing access to the name, but that it could not be converted into words. At one level, this doesn’t seem wholly convincing because the patient’s response to interviewing about single items did not give one the impression that her only problem with semantic access was “putting it into words”: The blanks in her descriptions were in no sense tip-of-the-tongue states. In addition, when she says (referring to Deneuve and Gainsbourg for instance) that she doesn’t have contact with this sort of person, one gets the feeling that she has only the vaguest (explicit) notion of who the person is.
Furthermore, Hanley et al. (1989) reported the case of a patient, BD, who had difficulty identifying people from their faces, names, and voices. Using a learning paradigm, it was found that BD showed covert effects of knowledge about people that he could not identify overtly, suggesting that the semantic system was, at least to some extent, intact. However, despite this evidence of implicit access to the semantic system, the patient was never found to name without comprehension.

CONCLUSION

The data reported in this paper and those reported by Shure et al. (1993) demonstrate that there are cases of dementia where confrontation naming is intact, relative to verbal fluency and spontaneous speech. The semantic capabilities of these patients are severely compromised and yet naming can, on occasions, be relatively spared. In this paper we have shown that this phenomenon can be found for face as well as for object identification, and have also shown that, for Mme. DT, it was possible to name something and fail to show evidence of access to category information even if asked straight away. The finding poses problems for models of visual cognition, and, however it is to be explained, Mme. DT’s performance represents the lowest degree of explicit semantic access that has been shown in conjunction with successful naming.

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