Difficulty Recalling People's Names

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ABSTRACT: ***Background:*** Difficulty recalling people's names is common in the adult population, especially in the elderly. The subject is scarcely mentioned in the literature. An 82-year-old patient gave the history that for 33 years he had made prospective observations on his own difficulty with people's names. ***Method:*** Documentation and analysis of the patient's personal observations in which his ability to recall the names of friends, acquaintances, colleagues, public figures, movie stars and athletes is compared with that of his spouse. A suitable test-battery for the names of famous North American persons was not available. ***Results:*** The patient's capability in recalling people's names was clearly inferior to that of his spouse. The patient's intellect was otherwise intact and the impairment seemed to be isolated to the category of proper-naming. Doubts were raised about the patient's own conclusion that the deficit was progressive. ***Conclusions:*** A parallel may be drawn between benign difficulty recalling people's names and the acquired categorical deficit for proper naming reported in the literature in recent years. Based on Damasio's concept of anatomically compartmentalized sensory subsystems, it is hypothesized that our patient's symptom represents an innate limited capacity for proper naming.

RÉSUMÉ: Difficulté de la mémoire évocative des noms. ***Introduction:*** La difficulté à se souvenir des noms de personnes est fréquente dans la population adulte, surtout chez les gens âgés. Ce sujet est à peine mentionné dans la littérature. Un patient âgé de 82 ans a rapporté que, pendant 38 ans il a noté des observations prospectives sur sa propre difficulté à se rappeler des noms de personnes. ***Méthodes:*** Nous avons comparé et analysé les observations personnelles du patient sur sa capacité à se rappeler des noms de ses amis, de ses connaissances, de ses collègues, de personnalités publiques, de vedettes de cinéma et d'athlètes, à celles de son épouse. Aucune épreuve standardisée portant sur les noms de personnages nord-américains n'était disponible. ***Résultats:*** La capacité du patient à se rappeler des noms de personnes était nettement inférieure à celle de son épouse. Le facultés intellectuelles du patient étaient intactes par ailleurs et le déficit semblait limité aux noms propres. Nous avons émis des doutes quant à la conclusion du patient que la déficit était progressif. ***Conclusions:*** On peut faire un parallèlle entre une difficulté anodine à se rappeler les noms de personnes et la déficit acquis portant sur une catégorie, soit les noms propres, tel que rapporté dans la littérature des dernières années. En se basant sur le concept des sous-systèmes sensoriels à compartimentation anatomique de Damasio, nous émettons l'hypothèse que les symptômes de notre patient représentent une capacité limitée innée à se rappeler des noms propres.

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This paper was occasioned by the report of an 82-year-old patient that for 33 years he had made observations on his own increasing difficulty in recalling people's names. The literature on this common complaint is limited and as far as can be ascertained there has been no systematic study of the symptom. There is general agreement that difficulty recalling people's names is common in the adult population, especially in the elderly.[1-3] The only reference to the condition is a brief report[3] in which 100 married couples over the age of 60 years, were asked about their relative proficiency in the matter. In 86 percent of couples, there was a rather prompt agreement that the wife's memory for names was superior to that of her husband. A longitudinal account of the introspective impression of one person, in the absence of systematic measurement, is of little value, but it may serve as a suitable introduction to the subject.

Insofar as the forgetting of people's names constitutes a limited highly selective complaint, it touches on the general subject of categorical deficits in cognitive neurology and in particular, the categorical deficit for proper names. In recent years, there have been several reports[4-12] of patients who as a result of cerebral lesions, have acquired marked impairment in recalling the proper names of people, and in some cases also of cities, mountains, rivers, etc., while able to provide detailed information that leaves no doubt that in each instance they identify the person in question whom they cannot name. Furthermore their performance in all other cognitive tests is within normal limits. Other examples of categorical deficits have selectively involved fruits and vegetables,[13] inanimate objects versus living things,[14] and verbs versus nouns.[15]

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Case Report

An 82-year-old academician (SM) gave the history that for 33 years, he had made observations on his own progressive difficulty in recalling the names of acquaintances, public figures, etc. He first became aware of a limitation in recalling names at the age of 49 years, on the occasion of his 25th college reunion, when he noted a lesser facility with names than did others. Whether the impairment first appeared at this period is unknown. The possible existence of such a deficiency had not entered his mind prior to the reunion. Over the years thereafter he was aware of a gradual decline in the promptness with which the names of friends, acquaintances, former colleagues, public figures, movie stars and athletes came to mind. His spouse who is two years younger, retained an excellent memory over the entire period, including a remarkable ability to conjure up names of people. This provided a gauge of his failing proficiency without it being known to his wife, that a comparison was being made.

Until the age of 78 years, only proper names seemed to be involved, but thereafter with increasing frequency complex words that had been more or less second nature for him to use, failed to come with their accustomed readiness, for example, a priori, analogous, idiosyncrasy, discerning, etc. No particular category of words seemed to be affected. The arrangement of sentences probably became hampered because of circumlocutions, but it never occasioned comment.

During the 33 year period of observation SM was unaware of any general cognitive decline. Memory remained superior to that of his colleagues. Reading and arithmetic were unimpaired. His facility with foreign languages was retained. He maintained his customary proficiency in scholarship.

Neurological examination at the age of 82 years, was within normal limits. The non-mental part of the examination was normal including pupils, ocular movements, facial symmetry, strength, coordination and sensation. The tendon reflexes were average except for absent ankle jerks. Gait and balance were normal. Language function for propositional speech, reading, writing and calculation was within normal limits. More than 50 objects were quickly and correctly named. Drawing and copying were done well. SM named 11 movie actors and actresses in one minute. He named the last 10 presidents of the United States, and all 50 states of the USA. A computerized scan of the head at age 80 years, revealed minimal sulcal widening and smaller than average ventricles. No focal atrophy was identified.

Further Specific Observations

The difficulty with proper names almost exclusively involved people, but occasionally it concerned towns, streets, and monuments (for example, the Statue of Liberty). The names of objects were never affected. The defect was only relative, and many names were spared, in contrast with some of the cases of acquired proper name anomia, in which the loss approached total. One such patient could name only his wife.[6] SM could as the occasion arose, name siblings, children, grandchildren, cousins, nephews and so on. Also the names of many colleagues and neighbors could be recalled appropriately, indicating that probably, remembered names were used more frequently and were more significant in the subject's daily life. Whereas in earlier times he could name entire sports teams, in later years he remembered scarcely any player's name. In identifying movie actors, he regularly failed on all except Clark Gable, while his wife usually recalled the desired name. SM repeatedly emphasized the overall frequency with which his wife could think of names when he could not. The names of fellow students and friends from the first 20 years of his life, seemed to be recalled relatively better than later acquired names, suggesting a parallel with memory in which older memories may have a relative permanence. In the acquired case of Shallice and Kartsounis proper names of the last 20 years were more impaired.[9]

It was commonly observed that a name which failed to be retrieved on demand came to mind, unsought, minutes, hours or days later, in the absence of any further conscious attempt to recall it in the meantime. This well-known phenomenon has not been reported in accounts of acquired proper-name anomia.

When a name failed to appear on demand and was then supplied by another person, SM would frequently forget it again in the following minutes or hours as usual activities were resumed. This could be repeated several times in a few hours suggesting a specific inability to memorize a particular name.

Self-cueing was regularly tried, for example reciting the letters of the alphabet, but this was almost never successful. Making an assortment of sounds trying to get a clue, also failed. When it was imagined that a particular sound was close to the desired name, the real name usually turned out to have no resemblance. Suggested wrong names were invariably rejected. Estimates of whether a name sought had one or two syllables was no better than chance. Retrieval of the first name frequently prompted the correct surname. It was also observed that trying to recall a name when first waking from sleep was less successful than later when fully awake. Various mnemonic aids were tried but the only successful one was a list of names.

When the proper name of an absent person was being searched for in vain, no substitute name replaced the one sought, that is confabulation did not occur. Other mental associations followed briefly, and when these failed, mentation would seem to come to a halt temporarily, as a faint image of the person in question, came and went in the mind's eye. One might say the subject was experiencing the phenomenon of a train of neural impulses seemingly coming to naught. The differential changes in functional magnetic-resonance imaging during successful and unsuccessful retrieval of well-known people's names should be informative.

The opportunity of identifying a familiar voice had frequently arisen during movies, but the addition of the aural mode seemed not to aid in the search for a name (Vincent Price, James Mason, Joseph Cotton, Richard Burton, Orson Wells and others).

The validity of this account would have been greatly enhanced if SM's limitation in name had been formally measured at intervals. However, test batteries for proper naming had not been formulated in 1963 when observations began. European famous-person batteries for naming appeared in 1980[4] while a North American standardized instrument is not currently available. Unlike the great severity of proper name anomia in the reported cases, SM's deficit was very partial, and a population-based standardized test battery for names of famous figures may be insensitive to naming deficits largely limited to colleagues, acquaintances, politicians, etc. Overall, recall failure involved local people from everyday life rather than famous figures. In this regard, SM's wife since he was 24 years of age, served as an ideal control subject, sharing family circle, social milieu and artistic pursuits. According to SM, hardly a day passed without his wife retrieving a name when he failed to do so, clearly establishing and tracing the existence of a deficit.

The Nature of SM's Difficulty in Recalling People's Names (Benign Name Forgetting)

As already stated, difficulty in recalling people's names is commonly observed in adults.[1] Casual inquiry in patients reveals that many males claim their memory for names has never been proficient.[3] SM from self observation over a period of 33 years, gained the impression that he was subject to a progressive process in which the impairment slowly and gradually became worse. SM's proper naming function was certainly impaired compared with his wife's, but at the age of 82 years he still retained a good deal of function. With increasing years the opportunity to forget names probably expands naturally. Aging may have contributed in that Nicholas et al.[16] found a slight but significant decline in performance on the Boston Naming Test in people 70-79 years of age. Howieson et al.[17] confirmed this finding in 34 optimally healthy individuals aged 84 years and older. The crucial question is whether SM's proper-naming function actually declined over the years or whether a stable limited capacity only seemed to get worse. It is quite conceivable that the capacity to recall people's names is constitutionally determined and that SM's increasing deficit was only apparent, aging perhaps playing a small role. The preservation of his intellect over so long a period is against a progressive cerebral deterioration. Before speculating further on the nature of the process reported by SM, a prior step would be a longitudinal investigation of proper-naming function in a cohort, or a cross-sectional

study of the function in various age-groups. In the meantime the matter of a progressive decline with age should remain moot.

It is likely that the full range of the category of proper names has not been explored. For example does it include the names of pets, race horses, bacteriological, zoological, botanical and astronomical items, and medicines? Does the process occur in the deaf and the blind? A comparison in identical twins could be informative. In gifted musicians, does the high content of musical sounds neurally ingrained in the temporal lobes, compromise remembering people's names?

The Anatomy of Proper Name Anomia

Anomia in which the subject fails to produce the word but neither confabulates nor produces paraphasias, is generally held to be associated with a lesion located in the second temporal convolution of the dominant hemisphere.[18] Damasio et al.[19] more recently found proper-naming impaired with lesions of the anteriormost sector of the left inferotemporal region. Temporal lobe abscess secondary to otitic infection classically gained the reputation of having anomia as an opening or early manifestation.[20] In a personal case, a youth, as an early complication of an otitic infection, forgot the names of his siblings and of his dog. Infarction in the territory of the posterior cerebral artery can also be accompanied by a striking anomia. In a personal case, a patient with a limited infarction in the territory of the dominant posterior cerebral artery, temporarily exhibited a selective anomia for proper names of people and nearby towns. In infarction in the territory of the posterior cerebral artery, the anomia may be for common names as well as proper names, indicating anatomical proximity of the two functions.

In the aforementioned cases of acquired selective anomia for proper names, the lesions were all in the left hemisphere. (a) Infarct in the region of the posterior temporal branch of the middle cerebral artery (CT);[4] (b) infarct in occipitoparietal region (CT);[5] (c) hemorrhage into temporal lobe tumor (surgery);[6] (d) traumatic frontotemporal lesion (CT, MRI);[7] (e) anterior thalamic infarct encroaching on the adjacent genu of the internal capsule (CT);[8] (f) slowly growing tumor in left medial temporal lobe, basal ganglia and thalamus (CT);[9] (g) indefinite damage following rupture and clipping of an aneurysm at the origin of the left posterior communicating artery (CT);[10] (h) recurrence of frontotemporal tumor (CT);[11] (i) infarct at genu of internal capsule (CT).[12] In three cases[6,9,11] the deficit was present when the patient was first examined; in the others the anomia was the residuum of a more extensive deficit. There has not been an account of the progressive reversal of a proper name anomia. That lesions at the genu of the internal capsule can produce the syndrome, is surprising and warrants further scrutiny. It is advisable that all such cases be studied with the most modern imaging technique.

A point of some interest emerged from this analysis. The anterior inferotemporal lobe is not in the territory of the middle cerebral artery, infarction of which is the most common cause of aphasia. Hypertensive hemorrhage, another more common cause of stroke, is usually located in the putamen or thalamus, at a distance from the anomic site. Cases of anomia for clinical study are therefore to be expected in other disease processes that involve the inferotemporal lobe: hemorrhage in amyloid angiopathy, tumor, abscess, herpes encephalitis, traumatic contusion, infarction in the territory of the posterior cerebral artery and so on. It should be possible to study the anomic process in the stage of either progression or recovery.

Proper-Name Anomia and the Cerebral Organization of Knowledge

The neuropsychological basis of the acquired categorical deficit for proper-naming versus common naming has been interpreted variously. Explanations resting on relative word-frequency or complexity have little currency at present.[8] Psychologically, semantic memory is preserved since the specific biographical information about the target person seems quite intact. The difficulty must lie in an inadequate linkage between the semantic system and the lexical system for proper names, resulting in limited access to the latter. The phonological and orthographic lexicons must both be involved since oral and written modes fail.[11] A much discussed idea is that proper names describe no property or attribute of the bearer but are purely referential and therefore meaningless. The result would be limited associations or connections between the semantic and lexical systems.[7]

Damasio[21] taking a more neurological approach starts with the neuronal patterns in our brains that record in each sensory modality, visual, aural, somatosensory, etc., all entities in our environment, people, things and events. He speculates that entities are recorded, in each individual, over a personal lifetime, with such fineness of detail that many anatomical subgroups are formed, based on shared fine features represented by adjacent neuronal circuitries. Brain lesions may cause selective deficits, not as a result of isolating categories determined by the customs of everyday living (furniture, tools, clothing, etc.) but as the result of damaging or disconnecting finely arranged neural compartments of circuitries that share a near sameness. Damasio[21] listed eight factors that contribute to the uniqueness of the neural traces corresponding to entities. Ojemann[22] using cortical stimulation and recording, demonstrated compartmentalization of motor speech into separate systems.

Can any broad inference be drawn from the co-existence of "benign name forgetting" and the acquired selective deficit for proper names? We are positing that in our patient SM the capacity or facility for proper names is constitutionally limited. If Damasio's concept is valid, it might be proposed that cognitive functions in general, are also comprised of numerous, distinct sensory-determined, anatomically-compartmentalized subsystems. Moreover, based on our interpretation of SM's limitations, the innate functional capacity of each subsystem varies from individual to individual contributing to differences in human potential. Musical aptitude, for example, could have such a basis.

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References

1. Bolla KI, Lindgren KN, Bonaccorsy C, Bleecker ML. Memory complaints in older adults. Fact or fiction? Arch Neurol 1991; 48: 61-64.
2. Cohen G, Faulkner D. Memory in old age: 'good in parts'. New Scientist 1984; 104: 49-51.
3. Fisher CM. Vascular disease, senility, and dementia. Lancet 1985; 1: 173.

4. McKenna P, Warrington EK. Testing for nomial dysphasia. J Neurol Neurosurg Psychiatry 1980; 43: 781-788.
5. Semenza C, Zettin M. Generating proper names: a case of selective inability. Cognitive Neuropsychol 1988; 5: 711-721.
6. Fisher CM. Neurologic Fragments. II Remarks on anosognosia, confabulation, memory, and other topics; and an appendix on self-observation. Neurology 1989; 39: 127-132.
7. Semenza C, Zettin M. Evidence from aphasia for the role of proper names as pure referring expressions. Nature 1989; 342: 678-679.
8. Lucchelli F, DeRenzi E. Proper name anomia. Cortex 1992; 28: 221-230.
9. Shallice T, Kartsounis LD. Selective impairment of retrieving people's names: a category specific disorder? Cortex 1993; 29: 281-291.
10. Carney R, Temple CM. Prosopanomia? A possible category specific anomia for faces. Cognitive Neuropsychol 1993; 10: 185-195.
11. Hittmair-Delazer M, Denes G, Semenza C, Mantovan MC. Anomia for people's names. Neuropsychologia 1994; 32: 465-476.
12. Fery P, Vincent E, Brédart S. Personal name anomia: a single case study. Cortex 1995; 31: 191-198.
13. Hart J, Berndt RS, Caramazza A. Category-specific naming deficit following cerebral infarction. Nature 1985; 316: 439-440.
14. Warrington EK, Shallice T. Category specific semantic impairments. Brain 1984; 107: 829-854.
15. Damasio AR, Tranel D. Nouns and verbs are retrieved with differently distributed neural systems. Proc Natl Acad Sci USA 1993; 90: 4957-4960.
16. Nicholas M, Obler L, Albert M, Goodglass H. Lexical retrieval in healthy aging. Cortex 1985; 21: 595-606.
17. Howieson DB, Holm LA, Kaye JA, Oken BS, Howieson J. Neurologic function in the optimally healthy oldest old: neuropsychological evaluation. Neurology 1993; 43: 1882-1886.
18. Brown JW. Aphasia, Apraxia and Agnosia. Springfield, Illinois: Charles C Thomas, 1972.
19. Damasio AR, Damasio H, Tranel D, Brandt JP. Neural reorganization of knowledge access: preliminary evidence. Cold Spring Harbor Symposia on Quantitative Biology 1990; LV: 1039-1047.
20. Brain R. Diseases of the Nervous System. London: Oxford University Press, 1962.
21. Damasio AR. Category-related recognition defects as a clue to the neural substrates of knowledge. Trends Neurosci 1990; 13: 95-98.
22. Ojemann GA. Cortical organization of language. J Neurosci 1991; 11: 2281-2287.