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The Syndrome of Capgras

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Summary: Three new cases of the syndrome of Capgras are presented. An unusual variant of the syndrome is recorded. It is contended that the definition of the syndrome should be widened to include impersonators who exhibit slight differences from the prototype, and that ambivalence and projection cannot explain all cases. The syndrome is critically reviewed.

In 1923, Capgras and Reboul-Lachaux presented to the Société Clinique de Médecine Mentale the case of a woman suffering from a chronic paranoid psychosis who asserted that her husband, her children and a host of other people had been replaced by impersonating doubles. The descriptive term used by Capgras and Reboul-Lachaux, namely *l'illusion des sosies*, (the illusion of doubles) was subsequently adopted by other psychiatrists, until in 1929 Lévy-Valensi suggested the title "The syndrome of Capgras" in acknowledgement of Capgras's outstanding contributions to our knowledge of this psychiatric entity. Although Capgras thoroughly deserved such recognition, Magnan (1893) and Janet (1903) had anticipated him in describing typical cases of the syndrome. Moreover, Bessière had in 1913 reported the case of a mentally disturbed woman who expressed the belief that another woman with an astonishing resemblance to her had taken advantage of this to perpetrate all kinds of misdeeds; and that a second woman who closely resembled the patient's mother had likewise impersonated the latter, with the same motive. Cases of this nature are important variants of the classic Capgras' syndrome.

Capgras' syndrome has to be distinguished from other disorders of recognition. Vié (1930) distinguished between this syndrome, which involves the perception of non-existent differences, and the disorder of recognition whereby people are mistakenly recognized as a result of the perception of non-existent resemblances. In rare cases, a mentally disturbed patient may affirm that a persecutor torments him or her by assuming the guise of persons the patient encounters in everyday life such as a postman, milkman, bus-conductor or doctor—a disorder of recognition that Courbon and Fail (1927) named the "illusion of Frégoli" after the famous Italian actor and mimic, Leopoldo Frégoli (Critchley, 1979). Another disorder of recognition from which Capgras' syndrome needs to be distinguished is the very rare "illusion of intermetamorphosis" (Courbon and Tusques, 1932) in which the patient believes that persons with whom he or she is acquainted have the power to change themselves into one another at will.

The syndrome of Capgras is rare (Nilsson and Perris, 1971; Christodoulou, 1977; Enoch and Trethowan, 1979). Women are afflicted by it more often than men (Vogel, 1974; Christodoulou, 1977). Patients exhibiting it tend to have a clear sensorium (Vogel, 1974; Enoch and Trethowan, 1979). The associated psychosis is most frequently paranoid schizophrenia, and less often a paraphrenic, schizo-affective, affective or organic psychosis (Merrin and Silberfarb, 1976). It is exceptional for there to be only one impostor or double; more often, the supposed substitutes are multiple, the number often increasing with the passage of time (Cenac-Thaly *et al*, 1962). The Capgras delusion may be short-lived, recurrent, or of long duration.

Cargnello and Della Beffa (1955) discuss the use of the terms *alter* for the original and *alius* for the impersonating double of the original, and record the case of a schizophrenic woman, aged 32 years, who not only falsely affirmed that her mother was dead, but also that a woman, supposedly impersonating her dead mother, was a *reincarnation* of the latter. Capgras' syndrome has been reported in combination with the illusion of Frégoli (Cenac-Thaly *et al*, 1962; Bland, 1971) and also in association with a folie à deux psychosis (Bankier, 1966), with de Clérambault's syndrome (Sims and White, 1973), with a schizophreniform psychosis in an XYY male (Faber and Abrams, 1975), and with pseudohypoparathyroidism (Hay and Jolley, 1974). The syndrome has been reviewed in

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detail by Cenac-Thaly *et al* (1962), Merrin and Silberfarb (1976), Arieti and Brody (1974) and Enoch and Trethowan (1979).

It is hoped that the following three case reports will make a useful contribution to the literature.

Case 1

A married man, aged 56 years, was admitted as an informal patient to Hill End Hospital on 24th April 1970 because he had developed symptoms of mental illness and had threatened to kill his wife. On admission he was noted to be correctly orientated for time and place but there was evidence of some degree of memory impairment. He was truculent, markedly suspicious, and experiencing auditory hallucinations.

An encapsulated epidermoid tumour had been removed from the left cerebello-pontine angle in 1943, but regeneration of residual tumour tissue had necessitated two further neurosurgical interventions, in 1960 and 1968. During the latter operation it was noted that the tumour had extended deeply backwards into the left cerebello-pontine angle and that it had also extended into the medial aspect of the left temporal lobe. After the operation the patient conversed normally, but failed to recognize his wife, and always referred to her as "that woman" when talking to his children or the Ward staff. Following a period of convalescence, he was discharged home in February, 1970. His wife at once noticed a marked change in her husband's behaviour. Whereas before the last operation he had been a quiet and polite man, he now shouted, sang and swore in a loud and uninhibited fashion. In addition, he had developed a mistrustful attitude towards her, accusing her of stealing his money and poisoning his food; and he had indicated to his children that he thought she was an impostor and had asked them to "get that woman out of the house". He had supported his contention that she was an impostor by affirming that the supposed substitute looked older and had more grey hairs than his wife and, unlike her, was cold and distant. Prior to his last neurosurgical operation, he had been happily married. He had six children. There was no family history of mental illness, or personal history of mental illness prior to 1968.

On admission in April 1970 he was found to be unable to walk without help and to have a right-sided hemiplegia and a left-sided nerve deafness. Prosopagnosia was excluded, because he could recognize his own mirror reflection, and the faces of famous people, as well as those of his children. Routine haematology, biochemistry and syphilis serology were all negative.

He at first remained in a disturbed state of mind. His memory was unreliable, he heard voices, and he frequently engaged in noisy and abusive outbursts. At other times he was sullen, suspicious, withdrawn and imbued with a feeling of unreality respecting himself and his environment. He continued to misidentify his wife and to complain bitterly that his real wife had deserted him because of his state of helplessness. With the passage of time, a gradual improvement in his physical and mental state occurred. He learnt to walk with the help of a Zimmer, his memory improved, he became more composed, and his auditory hallucinations were less troublesome. However, at the time of his discharge from hospital on 13th November 1974, he still had doubts respecting his wife's true identity. Arrangements were made for him to attend the hospital's industrial rehabilitation unit on maintenance drug therapy of perphenazine 2 mg three times daily and (as a prophylactic against epilepsy) phenytoin 100 mg plus phenobarbitone 30 mg night and morning. His improvement continued and his doubts about his wife's identity slowly weakened until he was eventually able to accept that the woman he had judged to be an impostor was in truth his wife. He was diagnosed as suffering from a paranoid schizophreniform psychosis with Capgras delusion, associated with a regenerating brain tumour and necessary brain surgery.

It is significant that the patient did not refer to his wife as being a double, but regarded her as an impostor with certain traits distinguishing her from his real wife. The strong organic background in this case is noteworthy. At one time, his wife's life might well have been endangered by his delusional idea that she was an impostor.

Case 2

A married woman, aged 68 years, who lived alone, was seen in her flat on 5th November 1977 in the presence of her brother and daughter. Her first husband had died and her second husband was in an old people's home. She accused the visiting psychiatrist of attempting to deceive her by impersonating the real Dr T. whom she knew well. Moreover, she stated that a man who had called earlier had pretended to be her family doctor but was an impostor. She adopted an intensely hostile attitude to her daughter, whom she clearly regarded as yet another dissembler, who had taken the place of her real daughter. She was deeply mistrustful of her visitors and expressed delusions of persecution, including the assertions that "refrigerating gas" had been pumped into her flat and poison placed in her bath. It was noticed that food which her daughter had brought had been thrown untouched into the refuse bin. The warden of the flats stated that this tenant had been annoying her neighbours by outbursts of shouting during the night. Her psychotic

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symptoms were judged to be sufficiently severe to justify her compulsory admission to a psychiatric hospital on 9th November 1977. On admission, re-assessment of her mental condition was impeded by her animosity and extremely suspicious attitude. However, she was keenly aware of her surroundings and showed no evidence of clouding of consciousness, hallucinosis or obvious depression.

When she became more communicative it was found that she was unable to give the current month or year correctly. It was also noted that her delusions about trickery and impostors had become more florid and more clearly defined. Eleven days after admission, she expressed her conviction to Dr T's registrar that "there are four Dr T's, the voice is the same but three of them are wearing a mask". The next day, she addressed the registrar as follows: "I know you are not a doctor. I am not exposing my body to anyone", and "there are four Dr T's and they all meet on the quiet; three of them have false faces—I can see a little further than you can". She repeated her previous assertion that a man posing as her family doctor had called, but said she had detected the deception, as he was "dressed less smartly than my own doctor". She conceded that the woman who had visited her at home cried like her daughter and wore the same clothes, but she still believed that she was an impostor wearing a mask, because "the false one's teeth are funny and I could spot it". She admitted that she had thrown away food brought by her daughter because she suspected that she was an impostor and it had been poisoned. She insisted that the ward sister, whom she knew well from previous admissions, was not the original Sister C. but another, who had replaced her.

She had had five previous psychiatric admissions, the first being in 1963. Her earlier illnesses had usually taken the form of delusions of persecution accompanied by depression of varying intensity. Once she had accused her neighbours of introducing mustard gas bombs into her home. Prior to another admission she had suddenly announced that her granddaughter had been murdered and that the body would be found lying beside a railway line. There was no family history of psychiatric disorder.

On clinical examination, a pan-systolic bruit was heard, with evidence of aortic sclerosis, mitral incompetence and enlargement of the heart. Blood pressure was 160/90. Retinal examination showed mild degenerative changes. There was a Parkinsonian tremor of the peri-oral and limb musculature. Routine haematology, biochemistry, electrolytes, liver and thyroid function tests showed no significant abnormality. Chest X-ray showed an enlarged heart.

ECG report: Left axis deviation, splintered QRS and T wave inversion.

EEG report: Abnormal, with the general background rhythms disrupted by sporadic, diffuse, slow waves of mixed theta and delta frequency. The latter disturbance was symmetrical but, nevertheless, fleeting runs of 10 Hz alpha rhythms were recorded over the occipital areas. No evidence of sub-clinical seizure discharge was seen. These findings were considered to be compatible with an organic origin of symptoms.

CAT scan report: The ventricular system was normal in size and position but there were widened sulci in the frontal lobes, suggesting some frontal cerebral atrophy.

During the next six months the patient's florid delusions of persecution were suppressed, her Parkinsonism was partially controlled, and her Capgras delusions eliminated by appropriate medication. However, she remained disorientated for time, suspicious and somewhat unsociable. She was diagnosed as suffering from paranoid schizophrenia and organic brain disease, with Capgras's syndrome.

This case is significant, as the patient was convinced that impostors purporting to be her daughter and her psychiatrist used masks when attempting to deceive her, although she detected differences in the appearance of her daughter's double ("her teeth are funny") and the family doctor's double (dressed less smartly than the real doctor). It is noteworthy that she was always able to recognize her brother. The abnormal EEG, the suggestion of frontal cerebral atrophy in the brain scan, and the Parkinsonism are of obvious significance, in view of recent case reports linking the Capgras syndrome with organic brain disease.

Case 3

A married woman, aged 41 years, was first admitted to High Royds Hospital on 16th August, 1978, and readmitted twice subsequently. She was finally discharged to out-patient care on 2nd October 1979, her psychosis having been stabilized.

While being observed and treated in hospital she expressed numerous delusions of persecution, the nature of which varied from time to time. She stated that men resembling and dressed like her husband had come to their house pretending to be him. She subsequently stated that the bodies of her husband and two of her step-sons were in the attic at home, her family having been replaced by substitutes of similar appearance. Moreover, she repeatedly asserted that her parents in London had been replaced by impersonators, and hence she no longer telephoned them. Her delusions were not confined to impostors, as she had complained at various times that her neighbours had "bugged" her house and monitored her move-

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ments, that her food had been drugged and poisoned, and that her thoughts had been influenced. She had doubtless had hallucinatory experiences, as she complained of having heard banging noises whenever she went out of doors, noises which she appeared to believe had been produced in an effort to hound her out of Leeds. It is noteworthy that during her second period of in-patient treatment she was found to have contrived to hoard a quantity of drugs, and admitted she had been planning to take her life.

A home visit and interview with the patient's husband, undertaken by a social worker on 30th August 1979, furnished additional information regarding the patient's suspicion that attempts had been made to deceive her by means of impersonators: "She felt that her husband was a substitute when he came home at lunchtime and that he was the real one when he came home in the evening. She even went round on one occasion to his ex-wife's residence asking her to confirm that it was in fact her husband in some family photographs and not a substitute. She had similar feelings about her step-sons and, needless to say, all these substitutes were evil and undesirable in their nature". The patient was a woman of average intelligence, whose sensorium had remained clear throughout her illness.

She had had previous periods of in-patient treatment at a psychiatric unit in St James's Hospital, Leeds, from 25th April to 22nd May 1978 and from 13th June to 25th July 1978. A few days before the first of her two admissions to hospital she had lacerated her wrists in a suicidal attempt. While she was at St James's Hospital her symptoms had been less florid and less protean than at the time of her subsequent admissions to High Royds Hospital, but she had complained of feeling depressed and said her husband had been replaced by a man of similar appearance. She had also complained that she herself had been impersonated by another woman, her step-sons having taken photographs of her to help the other woman in the impersonation.

She had married twice, a daughter by her first husband having remained in his custody following their divorce. The first marriage had broken up because she had accused her husband of infidelity and of having conspired with others against her. In 1976 she had married her second husband, who had two sons remaining with him, his other five children having left home. She appeared to be devoted to him, for she announced her intention of killing herself should he decide to leave her. Her affection for her second husband was fully reciprocated, and he visited his wife frequently while she was in hospital.

Physical examination revealed no abnormality. Routine haematology and biochemistry were normal, and serological tests for syphilis were negative. She was given a course of electroplexy and supportive drug therapy, from which she derived only temporary benefit. However, during the last few weeks of her sojourn in hospital she responded well to haloperidol 5 mg three times daily, slow-release amitriptyline 50 mg nightly, and intramuscular injections of fluphenazine decanoate mg 50 fortnightly. She was noted to be cheerful and free from psychiatric symptoms when discharged. She was diagnosed as suffering from paranoid schizophrenia with a depressive flavouring of variable intensity.

It is of interest that this patient never used the word "double" when referring to the supposed impostors, but indicated that they resembled the originals in their outward appearance and that they had evil intentions. The alternation of impersonator and prototype in the course of the day is an unusual feature. It is of interest that she suspected that there was another woman masquerading as herself.

Although it is not included in our list of Capgras cases, we feel that we should place on record a variant of the classic syndrome. One of us (G.W.) has interviewed an elderly woman suffering from a paraphrenic illness associated with numerous delusions of persecution of various kinds. These delusions included the idea that her husband was trying to poison her and the conviction that her much loved Siamese cat had been replaced by an identical one.

Discussion

The essence of Capgras' syndrome is the delusion held by an individual that one or more persons have been replaced by impostors with a close resemblance to the originals. It is no longer tenable to limit the Capgras delusion to instances in which a prototype has been replaced by an *exact* double, as favoured by Enoch and Trethowan (1979), for the patient often uses the terms "impostor" or "impersonator" rather than double (Vogel, 1974) and often discerns minor physical differences distinguishing the prototype from the impostor (Derombies, 1935; Brochado, 1936; Todd, 1957; Merrin and Silberfarb, 1976). The differences perceived by the patient between the prototype and impostor are sometimes of a surprising nature. Davidson's patient (1941, Case 1) claimed that the woman posing as his wife had differently formed sexual organs from the original. Even if the patient perceives no physical difference between original and substitute, he or she may complain of significant differences of personality distinguishing the two (Derombies, 1935).

The perceptual aspect of Capgras' syndrome merits attention, in that the patient who perceives the supposed imposter in the guise of an exact double of

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the original can be presumed to have a delusional perception, whereas the patient who perceives non-existent physical differences between the original and the impostor can be presumed to have an illusory perception. Since the patient's belief that the original has been replaced by a substitute is maintained even when the prototype (the object-stimulus) is no longer present, the belief is in the nature of a *delusion* and not merely a delusional perception or illusion. An interesting variant of Capgras' syndrome is the case of the patient who, in addition to expressing the typical Capgras delusion respecting other people, insists that she herself has been impersonated by a double (Capgras and Reboul-Lachaux, 1923; Depouy and Montassut, 1924; Bouvier, 1926, Case 1; Larrivé and Jasienski, 1931; and Case 3 of this paper). In such a case, the impersonator of the patient is, of course, never actually perceived.

The state of mind which is probably a prerequisite for the advent of the Capgras delusion is one of intense suspiciousness, the importance of which was initially stressed by Capgras and Reboul-Lachaux (1923) who referred to their patient's "paranoiac disposition". This factor has been subsequently stressed by Bankier (1966), Enoch and Trethowan (1979) and others. For instance, Merrin and Silberfarb (1976) have referred to "a setting of increased vigilance and suspicion" as being a hindrance to the patient's ability to recognize a familiar person, and Christodoulou (1977) has referred, in his study of 11 cases displaying Capgras's syndrome, to the fact that ". . . the clinical picture of almost all patients was dominated by a marked paranoid component". Such a mood doubtless paves the way for the emergence of the Capgras delusion and of certain paranoid delusions often associated with it, namely that attempts have been made, or will be made, to poison the patient (Lévy-Valensi, 1929; MacCallum, 1973, Case 2; Vogel, 1974, Case 2; Cases 1, 2 and 3 of this paper, and others) and that the missing originals have been kidnapped, imprisoned or murdered (Capgras and Reboul-Lachaux, 1923; Bouvier, 1926, Cases 3, 7 and 8; Ball and Kidson, 1968; Vogel, 1974, Case 1; and others).

Another state of mind that has been closely linked with the Capgras delusion is depersonalization-derealization (Capgras and Reboul-Lachaux, 1923; Frey *et al*, 1956; Todd, 1957; Nilsson and Perris, 1971; Christodoulou, 1977). A feeling of unreality can be expected to facilitate the advent of the Capgras delusion, as the following statements by depersonalized-derealized patients will show: "Friends and relatives are like strangers, just names to me" and "Everything looks strange, like painted, not natural . . ." (Mayer-Gross, 1935). This latter quotation is of particular interest because patients affected by the Capgras delusion sometimes assert that the impostors are wearing wigs (Todd, 1957, Case 2), are wearing masks (Case 2 of this paper), resemble wax models (MacCallum, 1973, Case 1), or have been changed by plastic surgery (Bland, 1971). It seems likely that in all these cases the patient's impression of artificiality stems from a state of derealization. The symptom known as *jamais vu* is probably a variant of derealization, and in some cases its presence in mild form may facilitate the development of the Capgras delusion. Derealization would appear to be the basis of the suggestion made by Capgras and Reboul Lachaux (1923) that the idea of an impersonating double arises in the patient's mind as the result of incomplete recognition of objects engendered by simulatneous feelings of familiarity and of strangeness. Merrin and Silberfarb (1976) in their paper on "The Capgras Phenomenon" saw a connection between depersonalization-derealization and Capgras' syndrome, for they wrote: ". . . a number of cases began with diffuse feelings of unreality or depersonalization, followed by indiscriminate misidentification and finally by the establishment of the Capgras delusion". Furthermore, it may be significant that both Capgras's syndrome and depersonalization-derealization occur more often in women: 46 out of 66 depersonalized patients in the group collected by Shorvon (1946) were female. However, depersonalization-derealization cannot *by itself* explain the development of Capgras' syndrome because patients afflicted by feelings of depersonalization or derealization have insight and appreciate the illusory nature of the phenomenon (Shorvon, 1946), whereas patients with the Capgras delusion are without such insight.

There are grounds for believing that certain other psychological factors may have a part to play in the aetiology of Capgras's syndrome. Derombies (1935) attached great importance to the affective state of the patient and expressed the opinion that Capgras' syndrome resulted from a simultaneous intellectual recognition and affectively engendered non-recognition. In some cases patients may gain relief from the disturbing effect on their minds of ambivalent emotions through the medium of the Capgras delusion (Karkalas and Nicotra, 1969). Usually, such ambivalent emotions are dealt with by saddling the impostor with the faults (often magnified) of the original, and deifying the original by an exaggeration of his good qualities. In this way, a Hyde impostor and a Jekyll original are created (Davidson, 1941, Case 2; Stern and MacNaughton, 1945, Case 1). Much less frequently, the impostor or double is cast as a person superior to the original (Larrivé and Jasienski, 1931; Todd, 1957, Case 7). The case of Larrivé and Jasienski

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is of particular interest, in that their patient appeared to make use of her Capgras delusions to satisfy the needs of wish-fulfilment and also to give expression to her ideas of grandeur. She claimed that her poorly endowed, sexually inadequate, splay-handed lover had a rich and virile rival with a close resemblance to her lover in appearance except that he had the small hands and feet of the aristocrat. Moreover, she herself had a double whom she suspected was a grand lady of some kind such as an Italian princess. In the case of those patients who exhibit Capgras' syndrome, but who also complain that they themselves are being impersonated by impostors or doubles, the general rule is usually followed in that their impersonators tend to be morally inferior to themselves (Bouvier, 1926, Case 1; Depouy and Montassut, 1924). Derombies (1935) drew attention to the psychological advantage of such a mechanism: "When the patients, as we shall see can be the case, create a double of themselves, the latter give expression to their repressed desires". Depouy and Montassut (1924) published the details of a case which appeared to illustrate the defensive use of the Capgras delusion as well as being a means of vicariously airing repressed desires. They argued that their hallucinating patient's claim that it was the doubles of her neighbours and friends, not the originals, who were denigrating and insulting her gave the Capgras delusion a protective rôle. Her delusional conviction of having been impersonated by a double leading a voluptuous life also had an exonerating and protective rôle as she could console herself with the thought that it was not she, but her double, who was being criticised.

Although the Capgras delusion can be used as a mental mechanism to afford the subject a respite from distressing ambivalent feelings, to argue that ambivalency is the basis of the psychopathology of the condition (Enoch and Trethowan, 1979) is perhaps to over-emphasise its rôle. It is not difficult to accept that a person can have ambivalent feelings about someone to whom he or she is linked by close emotional bonds, such as a husband or daughter, but it is not easy to accept that ambivalent feelings of any strength can exist in respect of mere acquaintances or inanimate objects, of little significance to the patient. Examples of persons towards whom Capgras delusion patients were unlikely to have had strong emotional links, but whom the patient claimed to have been replaced by doubles, include the commissioner and the prefect of police (Capgras and Reboul-Lachaux, 1923), a maid-servant (Halberstadt, 1923) and a group of neighbours (Minns, 1970). MacCallum (1973, Case 4) cited the case of a woman who, prior to claiming that he was impersonating the real Dr MacCallum, had insisted that the hospital and the staff were exact replicas of what she had known them to be. The patient of Delay *et al* (1952) was convinced that she had been transferred from one room to another while she was asleep, the second room being a reproduction of the first. Bouvier (1926, Case 1), Brochado (1936, Case 1) and Christodoulou (1977, Case 10) likewise reported patients who displayed Capgras's syndrome respecting persons and also expressed the delusion that inanimate objects had been replaced by replicas. Brochado (1936) and Frey *et al* (1956) were sufficiently impressed with the involvement of inanimate objects in Capgras's syndrome to refer respectively to "an illusion of doubles of things" and "doubles of objects". It is therefore evident that some of these Capgras patients become obsessed with ideas of doubles and replicas and that inanimate objects and persons, not intimately connected with the patient, may figure in the Capgras delusion.

The minor differences between prototype and impersonator so often perceived by Capgras's syndrome patients are doubtless produced by the process known as secondary rationalization.

An interesting complication stemming from the Capgras delusion that a husband or paramour has been replaced by a double is that the wife or mistress may come to the conclusion that she has committed innocent adultery, as Alcmene did with Jupiter, impersonator of Amphitryon (Alcmene's husband), in the Greek myth. The term "Alcmene Complex" (Disertori and Piazza, 1967) is perhaps best used broadly to cover all the sexual difficulties which can face a woman troubled by the Capgras delusion respecting her sexual partner (Vogel, 1974, Case 5; Christodoulou, 1977, Case 10). Derombies (1935, Case 12) and Cenac-Thaly *et al* (1962, Case 2) cited instances in which patients affirmed that they had had a child sired by a man posing as their husband. Not surprisingly, a woman may avoid the embraces of the impostor (Vogel, 1974, Case 5; Christodoulou, 1977, Case 10). Difficulties may also arise in respect of the male partner. Lansky (1974) described a case in which a husband developed feelings of guilt in regard to his wife, because he had "committed adultery with the doubles, and would be found out".

The notion that a reversion to primitive modes of thought (*une mentalité prélogique*) may have a part to play in Capgras' syndrome was first advanced by Halberstadt (1923). Stern and MacNaughton (1945), in giving some support to Halberstadt's ideas, quote the anthropologist Lévy-Brühl as follows: ". . . in the conception of the primitive mentality, objects, persons, phenomena can be themselves, and at the same time something else". There is an abundance of evidence that man has been preoccupied with the idea of doubles since time immemorial. According to Crawley

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(1908–1926) the Nágas, Andamanese, East Indian islanders, Karo Bataks and many other primitive tribes believe that their souls or ghosts take the form of a material replica of the person as he was in life, The religious philosophy of the archaic but advanced culture of the ancient Egyptians was much concerned with the notion of a soul-double. Mackenzie (1913) furnished a wealth of information about the *ka* or spirit (invisible double) envisaged by the Egyptians. He refers to the *ka* as follows: "During life the human *ka* existed in the human body. It was sustained by the doubles of everything its owner ate or drank, and it continued to require sustenance after the death of its host". In regard to the idea of impersonation, Crawley (1908–1926) states that "In the Dutch East Indies it is commonly believed that male and female spirits, *nita*, can assume the form and personality of lovers and friends. A man or woman keeping an assignation in the forest is liable to be duped in this way. A person who has intercourse with a *nita* dies in a few days". Crawley further points out that the Bahar Islanders believe that a male *suwanggi* is able to take the shape of a young woman's husband and cause her to conceive. Tymms (1949) examined the mythological origins of the double theme. He refers to myths and legends whose central motif is impersonation by doubles, such as the Amphitryon-Jupiter-Alcmene myth (Greek), the Nala and Damayanti myth (Indian) and the monkish anthology of the Emperor Jovinian (British). European folk-lore is richly endowed with accounts of the hallucinatory double, *doppelgänger* or wraith, it being a tenet of such folk-lore that to see one's own wraith is an omen of impending death (Todd and Dewhurst, 1962). In modern times, the idea of doubles and impersonators is doubtless kept alive by the natural occurrence of identical twins, by romantic fiction such as Stevenson's *Dr Jekyll and Mr Hyde* and Dostoevsky's *The Double* and by the doubling of actors by, for instance, acrobats or virtuoso pianists.

The possible rôle of organic disease of the brain in producing a state of mind favourable to the development of the Capgras delusion has been much discussed during the last decade (MacCallum, 1973; Merrin and Silberfarb, 1976; Enoch and Trethowan, 1979; and others). Weston and Whitlock (1971) and Hayman and Abrams (1977) have considered the relationship of prosopagnosia to Capgras' syndrome. However, prosopagnosia must be shown to be present by satisfactory tests before a cause and effect relationship between the two conditions can be seriously considered. Weston and Whitlock conceded that in the case of their Capgras syndrome patient, they were unable to elicit satisfactory evidence of prosopagnosia. In the two cases cited by Hayman and Abrams no specific tests to demonstrate the presence of prosopagnosia were performed. Moreover, neither case showed the presence of a visual field defect, which was present in 38 out of 42 cases of prosopagnosia studied by Meadows (1974). Prosopagnosia is not a severe impediment to recognition of members of the family, because the patient recognizes them on hearing their voices.

In regard to the rôle of organic factors in Capgras' syndrome, there would appear to be no reason to disagree with the observation of Christodoulou (1977) that, "In certain cases it is doubtful whether the syndrome would have become manifest if this organic component had not existed". It is noteworthy that organic cerebral disease was present in two of the three cases recorded in this paper. The "dissolution of the nervous system produced by organic cerebral disease" (Jackson, 1884) may well bring about a reduction of cognitive efficiency, an impairment of judgment and a phylogenetic regression to less sophisticated modes of thought, features which could be expected to favour the development of the Capgras delusion. Nevertheless, such a dissolution of the nervous system must evidently not be severe to be compatible with Capgras' syndrome because a clear sensorium is the rule in patients displaying it. Furthermore, Derombies (1935) has pointed out that a fair degree of intellectual integrity would appear to be necessary for the syndrome's appearance. However, the rôle of organic disease in the production of the Capgras delusion should not be over-estimated as in the majority of the published cases the patients have not shown evidence of organic cerebral disease and have presented as functional psychoses (Enoch and Trethowan, 1979).

Merrin and Silberfarb (1976) drew attention to the possibility that patients displaying Capgras' syndrome may in some cases have failed to make allowance for changes which occur in the appearance of relatives and acquaintances as the result of the passage of time and the ageing process. Leonhard (cited by Hamilton, 1974) took a similar view, suggesting that a factor in the psychopathology of the Capgras syndrome is "excessive concretization of memory images" and the patient's consequent tendency to fasten on to minor discrepancies between the memory image and the current perception. This phenomenon does seem to have had a part to play, as an initiating factor, in cases in which the patient and her relative or relatives have met after a period of separation (Bouvier, 1926, Case 1; Stern and MacNaughton, 1945, Case 1; Christodoulou, 1977, Case 9). Moreover, patients with Capgras' syndrome sometimes produce "then" and "now" photographs, in an attempt to justify their contention that an impostor has taken the place of the

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originals (Bland, 1971; Lansky, 1974; and Merrin and Silberfarb, 1976). Haslam (1973) recorded a case in which "concrete thinking" had appeared to play a significant part in the causation of the patient's Capgras delusion. She had failed to appreciate the true nature of the changes exhibited by her fiancé (which were due to his having developed schizophrenia), and this doubtless initiated her delusional idea that he had been replaced by an impostor.

The factor precipitating the Capgras delusion may be subtle, a point well illustrated by a patient of Minns (1970), whose delusion that her mother was an impostor was inaugurated by an incident in which the mother had hesitated a little before answering "Yes" when asked by a caller if she were "Mrs W."

Treatment

It is generally agreed that in cases of Capgras' syndrome it is the related psychosis which needs to be treated. However, interestingly, the Capgras delusions of the patient of Delay *et al* (1952) were selectively removed by a lobotomy, her other psychiatric symptoms showing only modest improvement.

Conclusion

All the factors discussed in this paper may well play an important part in the aetiology of Capgras' syndrome. However, the essential precursor of Capgras' syndrome, in our view, is a mind impregnated with morbid suspiciousness. A *paranoid interpretation* by the patient of the strange appearance of a relative—which in fact is due to a derealized state, or to a period of separation—may well subsequently result in the advent of the Capgras delusion.

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