as brief as four seconds and the longest was 48 seconds. In addition, longer episodes in the record showed slowing of the EEG, in the absence of eye movements, which were not scored as sleep because the wave forms did not meet the formal amplitude criterion. There were also many instances of sleep spindles against a background of eye movements and alpha frequency EEG. In spite of the patient's excellent co-operation in trying to keep awake, and constant observation by the nurses, neither they nor the patient were aware of the occurrence of sleep, though the latter had felt drowsy at times.

These observations indicate the need of continuous recording of EEG to verify presumed wakefulness in studies on the effect of sleep deprivation in depression. They also call into question previous attempts to explain the origin of the sleep disturbance typical of these patients, raising the possibility that it may be, at least in part, a consequence of the daytime discharge of non-REM sleep.

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Capgras Syndrome

SIR: I wish to report two cases of Capgras syndrome for time, a previously unreported phenomenon. Each patient also suffered from multiple other misidentification syndromes.

Case reports: (i) Ms A, a 33 year old white female with paranoid schizophrenia (DSM–III), had chronic delusions that multiple persons had been replaced by physically identical imposters who were either anonymous persecutors (Capgras syndrome), or specific other people (Fregoli syndrome). She also believed that certain places were identical duplicates of other locations known to her (reduplicative paramnesia). In addition she reduplicatively misidentified time, believing that 1984 was 1991. This occurred either episodically or simultaneously. At different interviews she might assert that it was 1984, or 1991, or both. It is important to note that she truly believed that two different periods of chronological time existed simultaneously—as opposed to being disoriented for an misnaming the true time in which she lived.

Her history and physical examination were negative for neurological abnormalities. Computerised tomography (CT) of the head, positron emission tomography of the brain, and evoked potentials were normal. Electroencephalography showed slow wave activity with lateralised predominance to each hemisphere at different times. Neuropsychological testing showed bilateral parietal and frontal lobe dysfunction on a pattern of diffuse right hemisphere dysfunction.

(ii) Mr B, a 31 year old white male with paranoid schizophrenia (DSM–III), had chronic delusions that duplicates of himself existed (syndrome of subjective doubles), that certain individuals were not only duplicates of others, but also looked like them (syndrome of intermetamorphosis), and that certain individuals were specific other people (Fregoli syndrome). He also had the longstanding belief that time was duplicated and that he existed in both the present and another time in which he was aged 82. When he thought he was in the future he believed that the entire world was also in the future, although he did not misidentify his surroundings. As with case (i) he had the delusion that two periods of chronological time simultaneously coexisted.

His past history was notable for three head injuries with loss of consciousness, one with coma requiring ventilation. His family history was positive for mental retardation and alcohol abuse. Physical examination and routine laboratory evaluation were unremarkable. EEG was within normal limits, and CT scan revealed bilateral frontal, temporal, and parietal lobe atrophy.

Classical misidentification syndromes include Capgras syndrome, Fregoli syndrome, syndrome of subjective doubles, syndrome of intermetamorphosis, and reduplicative paramnesia (Christodoulou, 1978; Joseph, 1986). It has also been suggested that psychotic syndromes of disorientation for place or time and reduplication of body parts are misidentification syndromes (Weinstein *et al*, 1954). The essential feature of these is a chronic psychotic misidentification of person, place, time, or other object, usually (but not always) with psychotic reduplication of that object. Weinstein *et al* (1954) discussed reduplication for time, but the case reports

suggested psychotic disorientation for time rather than the belief that more than one time existed simultaneously. The cases reported here extend the range of psychotic reduplicative misidentifications to include not only person, place, and object, but also time.

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WEINSTEIN, E. A., KAHN, R. L., MALITZ, S. & RZANSKI, J. (1954) Delusional reduplication of parts of the body. *Brain*, **77**, 45–60.

SIR: The Capgras syndrome is the rare delusional belief that person(s) important to the patient have been replaced by identical doubles. Included in this is the belief in a double of the patient himself or herself masquerading as the patient but never actually perceived. Of the 133 cases of the Capgras syndrome reported in the English language literature since 1923 and reviewed by Berson (1983), eight cases showed this latter form of the syndrome and of these only three patients in the 50 years believed that they themselves were the double.

Case report: The patient, RS, was reviewed recently when the doctor involved was asked to cover another doctor's duties in a different hospital. RS and the doctor had not met for 10 years, and the patient gave no sign of recognition. After a few minutes, RS stated that this wasn't the RS that had been known previously. That RS had been replaced by a baby of 8 months, or perhaps 2 years, made in a big machine in the main hospital building and ironed out to the patient's size and made to look like the patient.

When seen a few days later the patient persisted in the same delusion but admitted remembering the doctor. How was this? The other RS had passed the information on. In the past, three or four people had masqueraded as RS. Two had since died, one may have been murdered and one married. RS said her father was coming to visit her, and that she sometimes felt an injection in her ear which meant she had to say "aaah" out loud. RS was well oriented and denied feeling depressed, although the nursing staff reported her to be weeping and sad at times. Her chief amusement was smoking. Did she like reading books? No, she couldn't read, being so young.

RS came of a large family and both parents were dead. She qualified professionally in England and had three psychiatric admissions before being admitted to this hospital in 1966 at the age of 25.

From the case notes, in which she was given a diagnosis of schizophrenia, her mental state had changed little over the years. Various paranoid, hypochondriacal and grandiose delusions predominated. She was also noted at times to show incongruity of affect, thought disorder, lack of concentration and insight, poor motivation, ideas of reference and occasional episodes of aggression. There were no reports of depression, disorientation, flight of ideas or overactivity of any sort. Occasional non-verbal hallucinations had been reported.

In 1980 RS had bilateral mastectomies and chemotherapy for lobular carcinoma of the breasts. In 1982, according to her case notes, she claimed not to be RS but a two year old male called Jonathan. She was surrounded by a large invisible plastic box. Another note, in 1983, showed that RS claimed to be a three month old baby in her father's womb. In 1985 a chest X-ray showed metastases in the ribs and sternum.

Current medication included analgesics, anti-emetics, haloperidol, trifluoperazine, fluspirilene and biperiden. The patient was up and about and rarely requested analgesia.

Although organic factors could be postulated, it is easy to understand the denial, the wishful and fearful concrete regressed thinking that has wrought a delusion of being her own facsimile in this woman now so sadly placed on the edge of life.

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SIR: In contrast to the oldest patient with the Capgras syndrome (*Journal*, December 1985, **147**, 719–729), I would like to report a case of a 14 year-old adolescent female presenting with a 'delusion of doubles'.

Case report: The patient was admitted to an in-patient child psychiatry unit with a 12 month history of increasing irritability, weepiness and deteriorating school performance, becoming more evident six months prior to admission. Mental state examination revealed a delusional belief that her parents were imposters and that her real parents had had her adopted at the age of six. She identified her real father as being a well-known English rock musician. She maintained that the pictures of herself as an infant were those of her double with whom she had been swapped at the age of six and who was currently living in England in her place. She also manifested clear ideas of reference when listening to the musician's records. She