Reflections on the Study of Dream Speech

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Dream speech is an understudied area of dream research worthy of attention for its potential to shed light on the nature of the interactions between the dream-self and dream-others, the patterns of discourse that occur among dream characters, and the structure and content of dream speech itself. The history of the study of dream speech is surveyed. Investigation of the structure and content of dream speech points to interesting similarities and differences in waking, imagined, and dreamed speech. Dream speech data support recent evidence that higher-order cognitive activity is a feature of dreaming no less than of waking thought. The study of dream speech offers a window on understanding dream structure and content more broadly.

Keywords: dream speech, dream characters, patterns of dream speech interaction, dream speech structure and content, imagined speech

Dream speech may be said to occur when a dreamer reports having "said" or "heard" speech during a dream. Speech the dreamer reports hearing may or may not be directed at the dreamer, that is, the dreamer may witness a dream character "speaking" to another dream character, or speech may be heard by the dreamer that is directed at no one in particular. Both written language and the dreamer's thoughts belong with dream speech under the same umbrella of "evidence of language in dream content," but this article focuses primarily on what dreamers perceive as speech in its auditory form: monologues, dialogues, general conversation, and disembodied voices.

The National Sleep Foundation (2015) classifies *somniloquy*, better known as sleep talking, as a sleep disorder, though one that causes no physical harm. It is generally not grouped together with dream speech, yet it

may occur during both the REM (rapid eye movement) and non-REM sleep phases. When it happens during REM sleep . . . it's caused by 'motor breakthrough' of dream speech: One's mouth and vocal cords, usually inactive when we're sleeping, briefly get switched on, and words spoken by one's character in a dream are spoken out loud. (Wolchover, 2012)

Arkin (1981) found that sleep talking during early night non-REM (NREM) sleep often made little or no sense, while sleep talking during REM sleep and later-night NREM sleep showed more comprehensible, meaningful utterances that

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fit appropriately with the reported activity of the dream. To illustrate the dream speech–sleep talking overlap, I offer an example of a dream I awoke from because someone—me—was talking in the room:

I'm in a small old-fashioned farmhouse. Others are there. We're in the dining room, around a round table. There is conversation in the room. I wake up hearing myself talking. I'm also aware that my lips are moving as I'm lying in bed.

While the question of the extent to which sleep-talking represents instances of dream speech is an interesting one, the focus in the present article is on the characteristics of dream speech proper. (For a comprehensive work on sleep talking, see Arkin, 1981.) This understudied area of dream research is worthy of attention for its potential to shed light on the types of characters who engage in dream speech, the patterns of dream speech interaction, and the structure and content of dream speech.

The Study of Dream Speech

Although they are unlikely to be authentic dream reports, texts from ancient history suggest early recognition that dream speech occurred, especially in the form of messages from the divine. Mesopotamian, Egyptian, and Greek dream records all include visitations from the gods. According to Lincoln (2003, p. 6), a dream announcing the birth of a hero or prophet was a particular class of dreams in ancient times:

Now Satui (father of the great Egyptian magician Senosiris) went to sleep and dreamed a dream. Someone spoke to him saying, "Thy wife has conceived, and the child she will bear, will be called Senosiris, and many are the miracles that will be done by him in the land of Egypt."

Not dissimilar in pattern is the dream of Joseph that appears in the New Testament:

But when he had considered this, behold, an angel of the Lord appeared to him in a dream, saying, "Joseph, son of David, do not be afraid to take Mary as your wife; for that which has been conceived in her is of the Holy Spirit. And she will bear a Son; and you shall call His name Jesus, for it is He who will save His people from their sins." (*New American Standard Bible*, 1972, Matthew 1:20–21)

And God speaks directly to Jacob in the Old Testament account of Jacob's ladder:

And [Jacob] had a dream, and behold, a ladder was set on the earth with its top reaching to heaven; and behold, the angels of God were ascending and descending on it. And behold, the Lord stood above it and said, "I am the Lord, the God of your father Abraham and the God of Isaac; the land on which you lie, I will it give to you and to your descendants. Your descendants shall also be like the dust of the earth, and you shall spread out to the west and to the east and to the north and to the south; and in you and in your descendants shall all the families of the earth be blessed. And behold, I am with you, and will keep you wherever you go, and will bring you back to this land; for I will not leave you until I have done what I have promised you." (New American Standard Bible, 1972, Genesis 28:10–16)

Dream reports of this type are plentiful among ancient sources. So while Aristotle in the 4th century BCE rejected the notion that the gods sent messages to

dreamers, and later thinkers followed suit, the point stands that, whether prophetic, divine, or otherwise characterized, the experience of speech in dreams was culturally acknowledged among ancient populations. Perhaps no confirmation of this is more convincing than the following exchange between Socrates and Theaetetus, reported by Plato:

Socrates: There's a question you must often have heard people ask—the question what evidence we could offer if we were asked whether in the present instance, at this moment, we are asleep and dreaming all our thoughts, or awake and talking to each other in real life.

Theaetetus:... There is nothing to prevent us from thinking when we are asleep that we are having the very same discussion that we have just had. And when we dream that we are telling the story of a dream, there is an extraordinary likeness between the two experiences. (Plato, 1992, 157b-c)

As the founder of modern dream theory, Freud did attempt an explanation for dream speech, yet paradoxically his explanation may have steered his followers away from the topic. While he acknowledged that "speeches and conversations, whether reasonable or unreasonable" were not uncommon in dreams, he insisted that "the dream-work cannot actually *create* speeches." Instead, he proposed that the dream extracted "from the dream-thoughts fragments of speeches which have really been made or heard," choosing and assembling these fragments arbitrarily (Freud, 1900/1953, p. 454). Freud did concede that speech and its meaning may vary somewhat in the dream from what the dreamer heard during waking:

The text of the speech is either retained unaltered or expressed with some slight displacement. A speech in a dream is often put together from various recollected speeches, the text remaining the same but being given, if possible several meanings, or one different from the original one. (Freud, 1900/1953, p. 339)

Yet in the 1909 edition of *The Interpretation of Dreams*, Freud admitted "a single exception to this rule" in the form of his patient known as "Rat Man," a highly intelligent but obsessional neurotic for whom, according to Freud, the "spoken words which occurred in his dreams were not derived from remarks which he had heard or made himself" but instead "contained the undistorted text of his obsessional thoughts." Freud did not dwell on this exception to his claim regarding the nature of dream speech, however, and it remained undeveloped.

Why was Freud unwilling to grant a productive role to speech in dreams? An answer may not be easy to come by, for his writings on this point are contradictory, as we see from the Rat Man example just cited. One possibility is the effect on Freud of an 1861 book by German psychologist and philosopher Karl Scherner, *Das Leben des Traums* (*The Life of the Dream*). In addition to being influenced by Scherner's ideas about dream symbolism, Freud may have been convinced by Scherner's assertion that the dreaming mind is "without the power of conceptual speech" (quoted by Massey, 1990), and formed his theory around this claim. Joseph Delboeuf also influenced Freud's thinking on dream speech, as Freud noted in *The Interpretation of Dreams* (Freud, 1900/1953, p. 217, n. 2): "Only one writer on the subject seems to have recognized the source of spoken phrases occurring in dreams, namely Delboeuf (1885, 226), who compares them to *clichés*."

Another possibility may be found in Freud's primary process model of dreaming (for a thorough discussion of which, see Robbins, 2004). In the primary

process model, the dream is a nonrational, preverbal, sensory-perceptual experience, absent of reflective thought. Such a model has no place for the logic of speech—a secondary process—and what the dreamer reports as speech is therefore designated as regressive mimicry in order to fit the primary process model. But as with the Rat Man example cited above, Freud seemed to allow exceptions to his own rule about dream speeches being no more than repeated speech from waking: "Other sorts of speeches," he wrote, which are not felt by the dreamer "as having been heard or spoken (that is, which have no acoustic or motor accompaniments in the dream), are merely thoughts such as occur in our waking thought-activity and are often carried over unmodified into our dreams" (Freud, 1900/1953, p. 455). But while a role for verbal thinking during dreaming is granted here, precisely what kinds of speeches have "no acoustic or motor accompaniments" is not addressed beyond the assertion that "it is easy as a rule to make the distinction with certainty" between "anything in a dream [that] has the character of direct speech" and that which is "merely thought" (Freud, 1900/1953, p. 216). Freud's lack of a fully developed account of speeches in dreams notwithstanding, his facile solution to the question of dream speech together with his dominance of the field of dream research may be one reason that interest in dream speech was relatively lacking for much of the 20th century.

A notable exception to this neglect, however, is the work of a contemporary of Freud's, German psychiatrist Emil Kraepelin. Kraepelin, best known for his work on the classification of mental illnesses, was in fact the coiner of the term "dream speech" (German *Traumsprache*). He published a monograph in 1906 entitled *Über Sprachstörungen im Traume* (On Speech Disorders in Dreams). The monograph contains 286 examples of dream speech, most of which were Kraepelin's own. Curious about a parallel between dreaming and psychosis (as was Freud), Kraepelin's purpose in studying dream speech was to understand the abnormal speech of schizophrenic patients, so his corpus is one of ill-formed utterances, including errors of word choice, grammar, and sentence meaning.

While work on dream speech among followers of Freud was minimal (but see, e.g., Isakower (1954), for treatment of dream speech as evidence of the superego within the psychoanalytic framework), consideration of the structure of language as a model for understanding the formation of dreams did receive attention. Following Freud but also strongly influenced by Ferdinand de Saussure's groundbreaking work on structural linguistics, Lacan (1966/2006, p. 413) famously proclaimed that "the unconscious is structured like a language." By this he meant that the unconscious is not a morass of formless chaos but rather, like language, operates through a complex network of signs and rule-governed processes.

Subsequent work by cognitive psychologists, most notably David Foulkes, investigated dreaming as a cognitive activity, recognizing the importance of language in that activity, for example, "Dreams are phenomena with many organizational and structural parallels to language" (Foulkes, 1978, p. 153) and "however 'visual' dreaming may seem, it may be planned and regulated by the human *speech* production system" (Foulkes, 1985, p. 174). More recent studies support the continuity theory of dreaming, finding that higher-order cognitive skills demonstrated in waking—which necessarily include language use—are also shown in dreaming: "[T]he same structures and processes involved in the construction of waking experience are involved in the construction of dreaming experience"

(Kahan, 2011, p. 113; see also Cavallero & Foulkes, 1993; Foulkes, 1999; Kahan & LaBerge, 1994, 1996, 2011).

Strauch and Meier (1996) studied the overlap between dream speech and thinking, carrying forward a distinction that Freud, as previously noted, only cryptically asserted "easy as a rule" to distinguish:

There is a good deal of talk in dreams, but it is not always clear whether it is an auditory phenomenon. Dreamers often find it difficult to decide whether they actually heard the words, or whether they just knew somehow that there had been talk. (pp. 81–82)

Analysis of their corpus of dreams showed that, while 48.5% of dream impressions reported by dreamers were sensory impressions, thoughts, knowledge, and memories made up 42.7%, and emotions accounted for only 8.9% of impressions. Strauch and Meier suggested that "thought processes during dreams . . . should be regarded as an essential part of the dream, as dreamers do not just observe an event, but react to it" (p. 84).

Enough experimental work on dreaming as cognition had been done by the close of the 20th century that William Domhoff could confidently repudiate Freud's position on dream speech:

Freud believed that all significant speeches in dreams can be traced to memories of speeches heard or sentences read, but the analysis of hundreds of speech acts in dreams collected in sleep laboratories shows they are usually new constructions appropriate to the unfolding dream context, not reproductions. (Domhoff, 2000)

It can be said with sufficient confidence, then, that speech as a productive cognitive activity does occur during dreaming, and that the speech of dreams is not merely a verbatim repetition of speech from the waking state. But what of the nature of dream speech? The general characteristics of dream speech have received some, if not sufficient, attention both in and out of the sleep laboratory, as the following highlights make clear.

Calvin Hall's (1951) content analysis of 2,668 actions from 1,000 dreams showed that among activities in dreams, movement such as walking or running was the most common (34% of dreams), and talking was the next most common activity (11% of dreams).

In a laboratory study, Shimizu and Inoue (1986) found "a positive relationship between dreamed speech and phasic discharges of speech muscles during sleep" (p. 213).

Based on a sample of 500 REM dreams from 44 subjects over 161 nights in a sleep laboratory, Meier (1993) scored dream activities in accordance with the categories of the Hall and Van de Castle (1966) content analysis system. Verbal activity was found in two thirds (63.6%) of the dreams. Meier (1993) found that 30.3% of the 2,437 activities among the 500 lab dreams were scored as verbal, compared to 23.9% of 4,832 activities among the Hall and Van de Castle (1966) home dreams (p. 61). The predominant subject of the sample dream conversations was everyday life, including food, dates, and clothing. Relationships, life in general, and gossip occupied the second level of importance, and the dream conversations generally did not "express worries about the future or anxiety about the present state and the course of the world." The dream characters who engaged in conversation with the dreamers were most often known to the dreamer, including

friends, colleagues, relatives, and acquaintances. Meier (1993, p. 61) concluded from her study that verbal activity "is the principal means of social interaction in dreams" and that dream speech "is mostly syntactically correct . . . , and it is mainly appropriate to the overall context of the dream scenario" (p. 67).

More recently, Barrett (2009) reported on an analysis of 62 sample dream reports containing dream speech, collected from college students. Eighty-two percent of them (51 dreams) were found to contain linguistically well-formed, if short, simple sentences ("Don't let him get away. He wants to run."); 5% (3 dreams) contained a neologism ("Lola was the *guloff* and Jeannie was his wife."); 8% (5 dreams) had odd word choices, some of which might qualify as a mixed metaphor ("You are a pebble that thinks it's a comet."); and 5% (3 dreams) contained a phrase or fragment ("My son . . ."). An additional 19 dream reports claimed the occurrence of dream speech but without directly quoted language ("I definitely heard exact words out loud.").

The most extensive work on dream speech to date, however, has been done by Frank Heynick, as reported in numerous publications beginning in the 1980s. Heynick's (1993) book, Language and Its Disturbances in Dreams: The Pioneering Work of Freud and Kraepelin Updated, presents a thorough investigation of dream speech in the work of Freud and Kraepelin. In addition, Heynick (1993, and elsewhere) discussed the results of two of Heynick's own experiments conducted in the 1980s, in which sample dreams were elicited from members of the general population in the Netherlands. In the first of these experiments, subjects awakened by an alarm clock at home recorded utterances recalled from any dream in progress at the time of awakening. In the second experiment, subjects sleeping at home were awakened randomly by telephone and reported any dream scenario and its utterances in progress directly to the caller-experimenter. Heynick found that up to 50% of the collected data contained dialogue or monologue as part of the reported dream. In the first experiment, 60% of the dream utterances were produced by the dreamer, and 40% by another dream character, most often directed to the dreamer; the numbers were reversed in the second experiment (40% uttered by the dreamer, 60% by another dream character). Heynick also found that the great majority of these utterances were well-formed, that is, did not show deviation from ordinary spoken language in the waking state.

These various studies are significant for confirming that language is productively generated during dreaming, as well as for identifying the relative well-formedness of dream utterances and which dream characters produce them. Dream speech merits additional investigation, however. What follows is a preliminary consideration of three topics that may yield findings of relevance to an increased understanding of verbal language as a feature of dream content.

Dream Speech Happens: Characters, Interaction Patterns, Structure, and Content

The several perspectives on dream speech to be surveyed here include (a) the types of dream characters who engage in dream speech, (b) patterns of dream speech interaction, and (c) the structure and content of dream speech. Each perspective offers a basis of comparison between the speech of dreaming and that

of waking, and each is presented here in an exploratory way, without claim to exhaustivity.

Types of Dream Characters Who Engage in Dream Speech

In his analysis of one thousand dreams, Hall (1951) found that the most common characters beyond the dreaming self were strangers (43% of dreams), friends and acquaintances (37% of dreams), and family members, including in-laws (19% of dreams).

We can ask, then, other than the dream-self, who typically "speaks" in a dream? The possibilities are multiple and overlap with many, though not all, forms of waking interaction. My own survey of 500 dreams chosen randomly from a variety of sources suggests that the following dream-character types are among the most common speakers:

- (A-1) People from the dreamer's current waking life
- (A-2) People from the dreamer's past with whom there has been no recent contact
- (A-3) The deceased (usually known to the dreamer)
- (A-4) Celebrities, royalty, and other media figures not personally known to the dreamer
- (A-5) Characters who bear a resemblance to someone known to the dreamer, or who represent a blend of people and/or animals known to the dreamer
- (A-6) Completely novel characters ("strangers")
- (A-7) Animals (known or unknown to the dreamer in waking life)
- (A-8) Spirits or felt presences
- (A-9) Unseen narrators/voiceovers

In ordinary waking experience, we of course interact with people from our current life (A-1); less commonly, we may interact unexpectedly with people from our past (A-2), but we do not converse with the deceased (A-3). We also do not usually speak to celebrities (A-4), although through various media we may hear them speak to others. Neither do we encounter people who are a blend of two or more people (A-5), although it is certainly not unusual to meet someone who reminds us of someone we know. Strangers (A-6), of course, are everywhere, although interacting with them as if we know them well is generally atypical. Animals (A-7) cannot speak human language in waking life except through the magic of film or television (although the tradition of talking animals in literature has a long history, e.g., *Aesop's Fables*). Reports of visits from spiritual entities (A-8) are infrequent in modern society, and an unseen narrator or "voiceover" may be heard through a loudspeaker or other media. None of the forms of linguistic

interaction mentioned above are difficult to find in dream reports, but for space considerations only the patterns identified as unusual or impossible are illustrated here (A-3, -4, -7, and -8).

Characters representing the deceased (A-3). In the following report the dreamer, a semiretized man in his 60s, converses with his father, who had been deceased for a decade at the time of the dream:

I am involved in a project with some woman that needed to get done, like a theater project. My dad [deceased] arrives (he was expected) with my stepmother. He looks thin and sick. I go to hug him. I ask him, "How are you doing?" He says, "It's very serious." (Meaning his condition; he was having to attend to his own health.) Then I explain that I need to go to this meeting for an hour, but will be back in an hour. I feel guilty because what I had to do was not so serious, not like his condition.

Characters representing celebrities, royalty, and other media or public figures not personally known to the dreamer (A-4). The following report features two celebrities and includes both direct (quoted) and indirect (reported) speech. The dreamer is a middle-aged woman, a writer and editor:

I walk into a social event with one or more others. . . . Then I'm in another room and am helping someone famous edit a paper. . . . The celebrity, Woody Allen (though younger than in waking life), is scrolling through his paper on a laptop set up on a long folding table; he leans into the screen, elbows on the table, chin on the back of rounded hands. I'm trying to give helpful suggestions but he doesn't want my input. He ignores it, continuing to look at the screen, but I keep trying to say things until he finally says, "Yeah, I'll get my wife Louise to help me with it, she's really good at editing." Then I enter a pool room at the end of a set of party and editing rooms. I'm trying to get past a family with kids so I can get into the small whirlpool before they do. I walk on hands and knees, in puddles. I do get into the pool. Soon a man is there, Bruce Willis. He approaches me with intense interest. I tell him playfully that he has no boundaries. He says, "And you do?" I say "Yes, I'm sensitive to other people around, like the family there, who would not want to witness sexual activity here."

Animal characters (A-7). In the following report, the dreamer, an 11-year-old boy and member of the Ottawa tribe of North America, converses with an animal on the fifth night of fasting for a vision of his future:

I dreamt that I was alongside a lake and had not had anything to eat for some time. I was wandering in search of food for quite a time when I saw a big bird (*majg*). This bird came over to where I was staying and spoke to me, telling me that I was lost and that a party was out searching for me; and that they really intended to shoot me instead of rescuing me. Then the bird flew out into the lake and brought me a fish to eat and told me that I would have good luck in hunting and fishing; that I would live to a good old age; and that I would never be wounded by a shot-gun or rifle. This bird who had blessed me was the kind that one rarely has a chance of shooting. From that time on the *majg* (loon) was my guardian spirit. (cited by Lincoln, 2003, p. 272)

Spirit, presence, or unseen speaker (A-8). Robert Van de Castle reported a dream by a young boy who had had an accident, and it was predicted by his doctors that he would never walk again. His grandmother reported that the boy told her the following dream:

A very large man was at the end of his bed with a very bright circle going around and around his head. "He told me not to be afraid, Na Na. I will be walking by next summer."

A year later, the boy was indeed walking (Van de Castle, 2014, p. 29).

While each of these examples is unique, the number of examples is easily multiplied, despite the unreal nature of the interactions from the perspective of

waking reality. So while some of the types of figures we interact with in dreams closely resemble those we might interact with in the waking world, others are unique to the dream world and yet are not uncommon in that world.

Patterns of Dream Speech Interaction

The next list features common forms of dream speech interaction, some of which resemble waking interactions.

- (B-1) A dream character (human, animal, spirit) speaks or sings lyrics to the dreamer.
- (B-2) The dreamer speaks or sings lyrics to another dream character or characters.
- (B-3) The dreamer or another dream character speaks or sings aloud to no one in particular.
- (B-4) The dreamer participates in general conversational interaction with one or more others.
- (B-5) The dreamer witnesses conversation among others without participating.
- (B-6) The dreamer hears a disembodied narrator or voiceover.
- (B-7) The dreamer experiences verbal thoughts.
- (B-8) The dreamer writes or sees written words (in a language familiar or unfamiliar to the dreamer).

The examples below illustrate some of the interactions less likely to overlap with waking forms of interactions, including singing as a means of communication (B-1), speaking to no one in particular (B-3), and voiceover (B-6). Examples of the dreamer's verbal thoughts (B-7) are included both here and in the next section, which also contains an example of written language (B-8).

(B-1, -3, -7) A dream character sings lyrics; a dream character speaks/sings to no one in particular; the dreamer experiences verbal thoughts.

The following dream report, entitled "Sing Out: The Qualities of a Queen," is one of my own. It illustrates not only a character singing lyrics, but also the dreamer and another character speaking aloud to no one in particular, as well as a dream-thought:

I'm in an auditorium, similar in design to the San Francisco opera house. I'm almost at the top, and mostly to the left. Someone is speaking about candidates who are next in line for queen. I ask a question out loud: "What are the qualities a queen must have? That prompts a song from the MC (who's a little lower down than me and more in the center, on a dark concrete landing or walkway); he's a singer ready to perform in these situations (that is, when the right question is asked). I don't think it's John Prine, though his name comes to mind. He has an acoustic guitar and begins singing, by way of answering my question. It's a song I know ("... for crying out loud, the love I have for you, was never in doubt ...").

Upon awakening I realized the lyrics are to the song "Babylon" by David Gray. I thought there might be a pun on "babble on," which convinced me to choose dream speech for a conference talk over another topic I was considering at the time.

The dreamer hears a disembodied narrator or voiceover (B-6). The dreamer, a man in his 30s, reported waking up giggling at the narrative of the voiceover at the end of this dream:

It started with me touring a run-down building, then deciding to repair a brick staircase, which led across a polluted river. I wound up walking across with two others, looking for a place to swim, but the water was so dirty and brown and full of the occasional bit of floating debris that we just couldn't imagine it. The river, though, had a trail running along it, and the trail ran behind a series of upper-middle income suburban homes, which lined the river and which had swimming pools in their back yard. What we needed to do was find a pool to sneak into. Which we did and we swam. At some point we suspected the home owner had spotted us and called the police and even as we clambered out of the pool lights approached in the distance—for our late afternoon adventure had taken us into the evening. We ran along the trail and back into something that resembled a trailer park, one of which was my home. There, the voiceover which was my own (and yet not my voice), described in a Mark-Twainesque fashion: "The town was like an old cat, getting fatter and more neurotic with each passing day."

The Structure and Content of Dream Speech

In waking life, linguistic expression on all conceivable subjects is at least hypothetically possible, although there is an assumption that talk will be situationally appropriate. (A chef on a cooking show, e.g., will be expected to talk about food, not car repair.) What preoccupies us in waking may also preoccupy us during dreaming, so it is difficult to categorize the range of topics that dream speech may express. But does the language of dream speech expression differ from that of waking experience? If so, how? Consider the following aspects of dream speech structure and content.

Patterns of linguistic structure in dream speech:

- (C-1) Well-formed, logical statements of everyday content
- (C-2) Structurally well-formed statements that are illogical or nonsensical in meaning
- (C-3) Neologisms and ill-formed structures, including fragments

Patterns of semantic content:

(C-4) Messages of advice, comfort, or instruction, either sought or unexpected

Well-formed, logical statements of everyday content (C-1). My survey of 500 dreams suggests that grammatically well-formed statements constitute the most common form of dream speech (approximately 90% of the sample); about 60% of the utterances dealt with ordinary topics. The following example from a woman in her 50s contains both dream speech and a report of the dreamer's thoughts, both of which are quite ordinary:

I am with a group of 4–5 people, R. among them. We are walking up in front of a large ranch house where we're to give conference talks. R. is at the head of the group, I am second, and the others are next to and behind me. One of them asks R. "Are you okay?" I look up, thinking of course he's okay, but I see he has tears in his eyes and is upset about something. I wonder if I caused him to feel that way. I ask him, "What's wrong?" To both the first person's and my question, he gives a neutral, noncommittal response, but I see that the tears are about to overflow from his eyes.

Other than the fact that academic conferences are not commonly held in ranch houses, the situation and the dream speech in this report bear such a resemblance to ordinary experience that the dream report could credibly pass for a waking narrative. The example of ordinary speech reinforces the findings of Meier (1993) that the topics of much dream speech resemble those of ordinary waking life, as well the findings of Barrett (2009) and Heynick (1993) that most dream utterances are grammatically well-formed.

Structurally well-formed sentences that are illogical or nonsensical in meaning (C-2). Freud's famous "Irma Injection" dream report includes the following statement: "M. said: 'There's no doubt it's an infection, but no matter; dysentery will supervene and the toxin will be eliminated." By Freud's own analysis (subsequently much deconstructed, though not relevant here), the statement is nonsensical. In the summer of 1895 Freud had been providing psychoanalytic treatment to a young family friend, "Irma." The treatment had been only partially successful, and Irma had been unwilling to accept Freud's proposed solution, so they agreed to suspend further treatment for the summer. On the day preceding the dream, Freud's friend "Otto" visited and reported that Irma was "better, but not quite well." Freud took this as a reproof of his methods, and that evening he wrote out Irma's case history in order to justify himself to the respected "Dr. M." The dream he had that night includes examination and discussion of patches and scabs visible when Irma opens her mouth, which is what prompts Dr. M.'s nonsensical statement about dysentery. Freud found meaning in the statement by applying his then-fledgling method of association, but the point is that the dream statement itself is grammatically correct but illogical when held up to the light of day-world knowledge. (See below for the full report of "Irma's Injection.")

Neologisms and ill-formed structures, including fragments (C-3). A neologism is the creation of a new word by any of a variety of linguistic processes. Neologisms produced in dreams were formally identified as such at least as early as Freud and Kraepelin. Freud found many in his own and his patients' dreams. One of the best known is his dream of the following sentence: "It's written in a positively norekdal style." (Freud, 1900/1953, p. 331) Freud's initial sense of the meaning of norekdal was that it was a parody of two German superlatives, kolossal and pyramidal, but further analysis led him to unpack the word and discover it as a blend of "Nora" and "Ekdal," characters in Ibsen's plays A Doll's House and The Wild Duck, respectively. Other than Freud, the most attention paid to neologisms in dream speech to date has been by Kraepelin (1906) and Heynick (1993).

Perhaps it is ironically fitting, given his rejection of a productive role for speech in dreams, to review the full text of Freud's "Irma's Injection" dream. Not only is it the "specimen dream" Freud analyzed in detail to support his dream theory, but it is also rich in dream speech.

A large hall-numerous guests, whom we were receiving. - Among them was Irma. I at once took her to one side, as though to answer her letter and to reproach her for not having accepted my "solution" yet. I said to her: "If you still get pains, it's really only your fault." She replied: "If you only knew what pains I've got now in my throat and stomach and abdomen—it's choking me."—I was alarmed and looked at her. She looked pale and puffy. I thought to myself that after all I must be missing some organic trouble. I took her to the window and looked down her throat, and she showed signs of recalcitrance, like women with artificial dentures. I thought to myself that there was really no need for her to do that. - She then opened her mouth properly and on the right I found a big white patch; at another place I saw extensive whitish gray scabs upon some remarkable curly structures which were evidently modeled on the turbinal bones of the nose.-I at once called in Dr. M., and he repeated the examination and confirmed it. . . . Dr. M. looked quite different from usual; he was very pale, he walked with a limp and his chin was clean-shaven. . . . My friend Otto was now standing beside her as well, and my friend Leopold was percussing her through her bodice and saying: "She has a dull area low down on the left." He also indicated that a portion of the skin on her left shoulder was infiltrated. (I noticed this, just as he did, in spite of her dress.) . . . M. said: "There's no doubt it's an infection, but no matter; dysentery will supervene and the toxin will be eliminated." . . . We were directly aware, too, of the origin of the infection. Not long before, when she was feeling unwell, my friend Otto had given her an injection of a preparation of propyl, propyls . . . propionic acid . . . trimethylamin (and I saw before me the formula for this printed in heavy type). . . . Injections of this sort ought not to be given so thoughtlessly. . . . And probably the syringe had not been clean. (Freud, 1900/1953, pp. 139–140)

In this single dream report, we have examples of the dreamer speaking to another dream character, a dream character speaking to the dreamer, the dreamer's verbal thoughts, the dreamer participating in a general conversational interaction, a grammatically well-formed but illogical statement, and the dreamer seeing written language. As for whether or not any of the language in the dream is a repetition of something that had been said or heard by Freud, Freud comments only that his statement to Irma, "If you still get pains, it's your own fault" is the kind of thing he might have said to her and "may actually have done so" (Freud, 1900/1953, p. 141). But it is a tentative explanation, and none of the other language of the dream is accounted for in this way. We can take note, moreover, that by Freud's own analysis, both "Irma" and "Dr. M." each represent a blend of two (and for Irma, three) individuals known to Freud (cf. dream character Type A-5 above).

Semantic content: messages of advice, comfort, or instruction, either sought or unexpected (C-4). The examples cited earlier of dream reports from ancient literature all have the quality of being either oracular predictions of the future, comfort regarding the dreamer's waking distress, or advice to the dreamer. The report in the previous section from Van de Castle about the boy who was reassured by a man with a halo that he would walk again is evidence that dreams of this nature continue to occur. But words of comfort and wisdom do not necessarily come from an explicitly divine presence, as the following examples show.

In an interview with Clare Johnson (2014), Patricia Garfield reported a dream she had almost a decade before, after her husband Zal passed away; the dream is entitled "The Great Baptism." The expression of comfort and wisdom comes from a character identified as a "wise woman" and takes both written and spoken form:

I am with Zal at a gathering of Jewish people, listening to the words of a wise woman. She speaks of a coin (the coin of life?). I see it, large, with a deckled edge. On one side is printed the word ALWAYS.... On the other side of the coin is another word beginning with "A," perhaps AFTER or maybe AGONY—something connected with pain. The gist of her talk is that the two sides are indivisibly linked, the great love and the afterward, the love and the pain, but somehow it's all OK: life is whole....

In the next example, reported by Deloges (2014), the dreamer, a medical doctor and member of the Innu tribe of Quebec, receives an instructional message from a deceased relative. The dream subsequently inspired the dreamer to change the course of his life.

In this vivid dream, he saw his grandfather telling him to come back to Quebec and do something useful for the people, suggesting that he organize a great walk through which First Nations People would recover the pride of their origin. All people, First Nations and others, would be welcomed to walk together in this intergenerational and multicultural trek.

In the final example of this type, the dreamer, who was struggling with the loss of a loved one at the time of the dream, receives a spoken message from a friend and in turn offers the friend some written advice:

Hosana (a weaver and friend of the dreamer) is at her loom, doing something on it, tying knots at the top. I stand behind her and the loom. I see the loom is strung from low left to high right [instead of the ordinary up and down and across]. I ask Hosana, "What is that?" She replies, "It's my own invention." I ask, "What does it do?" She says, "It changes the direction." I give Hosana a small packet that says, "Invest in yourself."

It is noteworthy that the name of the dreamed-about friend is "Hosana." The resemblance of this name to the Biblical exclamation "Hosanna," used to express worshipful praise or joy (from the Hebrew expression meaning "Save us, please!"), was identified by the dreamer during group dream work, although the duplication of what the White Knight said to Alice in the chapter of *Through the Looking-Glass* bearing a title with the same words—"It's my own invention"—was not.

While it is common for individuals to be comforted or advised by others in waking experience, the examples above suggest that in dreams the provider of that comfort and advice may appear as extraordinary or otherworldly, and the advice itself may be life-changing or enigmatic.

In this section, several patterns of structure and one pattern of content in dream speech have been identified, including the logic or illogic of statements, the relative well-formedness of utterances, and apparent messages. The patterns support findings from the research discussed in the previous section, that in general dream speech is syntactically well-formed and lexically appropriate; the general well-formedness of dream speech in turn supports the findings that higher-order cognitive skills are active during dreaming. Moreover, errors of word choice and sentence structure in dream speech only reinforce the observation that dream speech resembles waking speech, where linguistic errors also occur.

Dream Speech, Waking Speech, and Consciously Imagined Speech

To what extent do dream speech and speech in the waking state resemble each other? In waking, we cannot generally predict with certainty what others are thinking or will say aloud, or how they will react to what we say. On the other hand, as speakers we are capable of planning what we are going to say in thought before we speak. And although we listen to our conversation partners, we are not unlike actors in a play, preoccupied with our own part in a conversation—the points and responses we intend to make. We engage in turn-taking, repair errors of discourse,

and follow other cultural conventions of interaction. Our utterances may vary from brief fragments to long, complex statements.

In consciously imagined speech, by contrast, such as in daydreams or, for that matter, the narratives of fiction, we impute speech to others, whether they are known to us or are fantasy figures. When it involves people we know, the content of this talk is not necessarily what they have said or even might be expected to say. Imagined speech is just that, imagined, yet it draws from the content, structure, and stylistic rules used in waking speech, as its general purpose would seem to be to rehash, rehearse, or fantasize interactions with others. In this respect, dream speech can be characterized as unconscious imagined speech. As examples here have shown, dream speech can resemble ordinary waking speech in both form and content; unlike waking interactions, however, yet similarly to imagined interactions, dreamed interactions result from the dreamer-as-scriptwriter. Even if their speech is consistent with what their waking counterparts might express, dream characters say what we imagine them to say, albeit unconsciously.

In both structure and content, much of dream speech may pass for waking speech, although generally in shorter and simpler utterance forms. Even the oddities of dream speech such as neologisms and nonsense statements occur in waking discourse, either as unintentional errors or as intentional products of the creative use of language. But while the structure of dream speech may for the most part be borrowed from that of waking speech, and while the topics of dream speech may bear a strong resemblance to those of waking speech, interactions in dream speech, like those of imagined speech, are products of mental activity alone. (Yet curiously, speech errors are less likely to occur in consciously imagined speech than in either waking speech or dream speech.) And if we go so far as to grant, with Freud, that some dream utterances do echo utterances heard by the dreamer while in the waking state, we must also acknowledge that some utterances spoken in the waking state also echo utterances heard in the waking state.

Conclusion

Possible reasons why dream speech has been understudied by modern dream researchers may include the fact that Freud and his followers, who dominated dream research for much of the 20th century, held to the idea that dream speech is mimicry of speech uttered in waking reality. Another possibility is the persistent assumption, even among dream researchers, that dreaming is predominantly visual in nature. Still another is the reluctance of dream-research scientists to study content such as spoken messages in dreams because these continue to be associated with religion and mysticism, and "messages" are necessarily viewed as antithetical to any theory of dreams that holds dream content to be meaningless.

Yet dream speech data support work by Foulkes, Kahan and Laberge, and others demonstrating that higher-order cognitive functions are active during dreaming, and further study of dream speech has the potential to extend our understanding of cognition during dreaming. Questions remain, however. Precisely how are the topics, words and sentences of dream speech selected? What neurolinguistic processes generating dream speech result in ordinary well-formed utterances on the one hand, but nonsense statements, ill-formed utterances, or

neologisms on the other? What is the relationship, if any, between the speech of dream content and the inner speech that is at work during dreaming in the construction of visual puns, conceptual metaphors, and possibly the fabric of the dream narrative itself (for which see, e.g., Foulkes, 1985; Kilroe, 2000, 2013; Lakoff, 1997)? Further investigation of dream speech will determine its characteristics in greater detail and will increase our understanding of dream content and dream formation more broadly.

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Correction to Vogelsang et al. (2016)

In the article "The Continuity Between Waking-Life Musical Activities and Music Dreams" by Lukas Vogelsang, Sena Anold, Jannik Schormann, Silja Wübbelmann, and Michael Schredl (*Dreaming*. Advance online publication, March 24, 2016. http://dx.doi.org/10.1037/drm0000018), four errors appear in text due to production errors. In the introduction, second paragraph, the third sentence should read: Paul McCartney reported that he woke up with a lovely tune in his head and first he didn't believe it was his own creation. In the **Discussion** section, second paragraph, the last phrase of the first sentence should read: but much higher compared with the sample of Schredl et al. (2015). In the **Discussion** section, the last phrase of the third paragraph should read: were much higher and, thus, detecting a substantial relationship was more likely. In the **Discussion** section, seventh paragraph, the second to the last sentence should read: This relationship has been shown for athletes. All versions of this article have been corrected.

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