

Japan's "Laughing Mushrooms"

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Introduction: A Medieval Japanese Tale

I was first drawn to the following tale in the hope that it might serve as a source of information about the popular attitudes toward Buddhism in Medieval Japan. While it did not offer much help so far as Buddhism goes, it did lead me into a rather long investigation that focused not on Comparative Religion but rather on Mycology.

Long long ago, some woodcutters from Kyoto went into the Kitayama mountains and lost their way. Not knowing which way to go, four or five of them were lamenting their condition when they heard a group of people coming from the depths of the mountains. The woodcutters were wondering suspiciously what sort of people it might be when four or five Buddhist nuns came out dancing and singing. Seeing them, the woodcutters became fearful, thinking things like, "Dancing, singing nuns are certainly not human beings but must be goblins or demons." And when the nuns saw the men and started straight toward them, the woodcutters became very frightened and wondered, "How is it that nuns come thus out of the very depths of the mountains dancing and singing?"

The nuns then said, "Our appearance dancing and singing has no doubt frightened you. But we are simply nuns who live nearby. We came to pick flowers as offerings to Buddha, but after we had all entered the hills together we lost our way and couldn't remember how to get out. Then we came upon some mushrooms, and although we wondered whether we might not be poisoned if we ate them, we were hungry and decided it was better to pick them than to starve to death. But after we had picked and roasted them we found they were quite delicious, and thinking, 'Aren't these fine!' we ate them. But then as we finished the mushrooms we found we couldn't keep from dancing. Even as we were thinking, 'How strange!'"

strangely enough we. . . ." The woodcutters were no end surprised at this unusual story.

Now the woodcutters were very hungry so they thought, "Better than dying let's ask for some too." And they ate some of the numerous mushrooms that the nuns had picked, whereupon they also were compelled to dance. In that condition the nuns and the woodcutters laughed and danced round and round together. After a while the intoxication seemed to wear off and somehow they all found their separate ways home. After this the mushrooms came to be called *maitake*, dancing mushrooms [*mai*, "dance"; *take*, "mushroom"].

When we think about it this is a striking story. For even though we still have this kind of mushroom, people who eat them do not dance. Thus this exceedingly strange story has been handed down.²

The foregoing account is from the 11th-Century Japanese folktale collection, the *Konjaku monogatari* ("Tales of Long Ago"). Many of the stories collected in the *Konjaku* were, as its title implies, relatively ancient stories that had come into Japan from India or China. However, some of the stories gathered together in the "Japanese Tales" section of the work represent retellings of actual events and thus might be as well called "folk history" as "folk tale." Certain literary considerations would tend to place this story in that category. In the first place, there is the unfinished and really rather pointless nature of the whole account. If it were a true folk tale that had been handed down orally from generation to generation, one would expect a tighter, more cohesive plot to have developed through time. Indeed, the story says so little, in and of itself, that it is hard to imagine that, if it had not been fossilized by the written word, it would have been passed on very long at all in such an un-

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² *Konjaku monogatari* shū, vol. 5, pp. 96-97.

embroidered form. Further there is the author/editor's very real perplexity about the "dancing mushrooms," which no longer live up to their name. If this were a standard just-so tale intended to give a folk etymology for the term "dancing mushroom," the action would probably be set in the mythical Age of Gods and there would be no expectation that the mushrooms would act in the same fashion today. Our author, however, seems to take the business of the mushrooms quite seriously and to be honestly puzzled by it. Assuming then, that the incident of the nuns and the woodcutters might be more or less historical, even we moderns — or at least the amateur mycologists among us — are left to wonder just what were these so-called "dancing mushrooms," *maitake*, that once caused people to dance with hilarity but at a later date had no such effect at all. One likely place to start such an investigation is to track down the modern usage of the term, if any.

Possible Identification of *maitake* as *Panaeolus papilionaceus*

A glance at the Japanese dictionaries showed that part of the problem was the old bugaboo of irregular usage of common names for plants and animals. The multi-volume encyclopedic dictionary, *Daijiten*, identified *maitake* as the edible mushroom *Polyporus frondosus* but added that the *maitake* mentioned in the *Konjaku* story was actually *waraitake*, the "laughing mushroom" (*warai*, "laughter"; *take*, "mushroom").³ *Waraitake* itself was identified as *Panaeolus papilionaceus*, of which it was said, "People who eat this mushroom get drunk. They may become extremely excited and dance and sing or see various hallucinations. Alternate names are *odoritake* ["jumping mushroom"] and

maitake."⁴ (*Odoritake* was not given a separate heading in the *Daijiten*.)

For further information, I turned to a more specialized source, Makino Tomitarō's *Shin Nihon shokubutsu zukan* (New Illustrated Compendium of Japanese plants), where *maitake* was identified as *Grifola frondosus* (*Polyporus frondosus*) and was said to be called the laughing mushroom because of its flared shape reminiscent of a dancer's skirts. Makino also mentioned the *Konjaku* tale and noted that the "*maitake*" mentioned there was not the same mushroom but "probably the laughing mushroom, *waraitake*."⁵ But no separate discussion of *waraitake* was offered.

At this point, the confusion over the toxicity or nontoxicity⁶ of "*maitake*" began to make some sense. Probably the author/editor of the *Konjaku* tale knew as *maitake*, the dancing mushroom *Polyporus frondosus* or some similar

⁴ *Ibid.*, vol. 23, p. 374.

⁵ Makino Tomitarō, *Shin Nihon shokubutsu zukan*, p. 963.

⁶ An early reader of this article expressed considerable dissatisfaction at my use of the term "toxicity" in reference to effects that were as mild or milder than those of alcohol and suggested that, "The same term should not be used for the toxic properties of an hallucinogen as for the toxin of the deadly amanita. It leads to confusion of thought." While I find this criticism quite valid in its way, there seems to me to be no present solution to the problem. Alternative terms such as "hallucinogenic" and "psychedelic" are not rigorously descriptive either. How many hallucinogenics actually produce something like hallucinations as their chief manifestation, for instance? Is the euphoric state induced by ingestion of marijuana to be classed with the much more complex mental phenomena associated with mescaline? Clearly we need a number of new and quite specific terms to designate these various non-normal states, but such an agreed-upon vocabulary has not yet developed. Lacking such a technical vocabulary, I have chosen neutrality as the best second-best procedure. Thus, the reader should keep in mind that my use of "toxic" and "toxicity" in this article is a very broad one and includes in principle at least, both very mild and very severe psycho-physiological manifestations.

³ Shimonaka Yasaburō, *Daijiten*, vol. 26, p. 149.

mushroom which derived its popular name from its flared shape, while the *maitake* mentioned in the body of the story represented the toxic *Panaeolus papilionaceus*, which because of the tendency to make people who ate it dance or jump or laugh compulsively, was likewise called *maitake*. It was also now clear that the most common name of the mushroom mentioned in the story was not *maitake*, "dancing" mushroom, but *waraitake*, "laughing" mushroom, and any attempt at an identification would have to be made on the basis of the usage of the second term.

Further examination of the Japanese sources soon made it clear that *waraitake* intoxication was not a phenomenon limited to Japan's ancient past. Kawamura Seiichi in his *Genshoku Nihon kinrui zukan* (Icones of Japanese Fungi) quoted the following verbatim report from a newspaper article in the *Hokkoku Shimbun* (The Northcountry News).

In Ishikawa prefecture, Hagui country, Hinogawa village, Ogintani, one Tsuta (age 40), wife of Ōda Yasutarō, and her elder brother were gathering plants on May 11, 1917, at about 2 p.m. in a place known locally as Inoya Mulberry field. As they were poking in the dirt on the Ogino-shima property of the Ichihoku Sannō Company they found a lot of grey mushrooms that looked like "chestnut mushrooms" growing at the base of a chestnut tree. Mrs. Ōda wanted to keep them since they seemed a lucky find but her brother warned her of the dangers of eating mushrooms whose identity was not wholly clear and she finally decided she would throw them out when she got home. However a neighbor, Mrs. Taniguchi Jūtārō (age 35), saw them and said that she had picked some very similar mushrooms at the same spot in March and asked to have a portion now. Mrs. Ōda, not wanting to be responsible for a poisoning, refused, but finally gave in under further pressure.

About eight o'clock that evening, Mr. Taniguchi (age 31), Mrs. Taniguchi and Mrs. Taniguchi's brother, Buntsuke (age 41), treated themselves to two bowls of mushroom soup while the elder Mrs. Taniguchi

(age 71) ate one bowl with only two or three mushrooms in it. They had hardly eaten when first Mrs. Taniguchi and then Mr. Taniguchi began to feel odd. Mr. Taniguchi then went next door to ask someone to fetch a doctor. When he got back home he found his wife dancing around stark naked, playing an imaginary *shamisen*, and laughing raucously. Even as he stood there amazed at all the uproar he found that he too was falling into the same crazed state. The older brother also eventually began to dance crazily. The intoxication of Taniguchi's mother was weaker, however, and though she became muddled she never lost complete control of her senses. She did, however, keep repeating the same words over and over and went to every house in the neighborhood apologizing throughout the night for "preparing such a poor meal" and thanking everyone "for putting up with it."

In this case we have not only a fairly detailed description of *waraitake* intoxication but also a positive identification, for Dr. Kawamura was able to obtain samples of the mushrooms involved and solidly identify them as none other than *Panaeolus papilionaceus*.

Pholiota spectabilis Enters the Picture

It would seem that the "dancing mushrooms" of the *Konjaku* tale might very well be *Panaeolus papilionaceus*. However, Kawamura Seiichi's research opened still another possibility. For he noted of *waraitake* that, "The country people seem to distinguish two species, one *waraitake* growing on horse-manured ground and the other an orange colored fungus called *ō-waraitake* ['big laughing mushroom'], which grows on decaying stumps and logs." Though common usage might not be wholly consistent, Kawamura indicates that these names seemed generally to refer to *P. papilionaceus* in the case of *waraitake* (*Panaeolus papilionaceus* and several other related *Panaeolus* species

[†] Kawamura Seiichi, *Genshoku Nihon kinrui zukan*, p. 566.

are lumped together in Japanese as *magusotake*, "horse-manure mushrooms") and to *Pholiota spectabilis* in the case of *ô-waraitake*. Kawamura also noted that while we cannot guess which of these two the *maitake* of the *Konjaku* tale might be, it is probable that they were one or the other.⁸

Japanese reports of *Pholiota spectabilis* as a toxic species have caused some puzzlement to Roger Heim, who in his *Les Champignons Toxiques et Hallucinogènes* wonders that among the reported toxic species in Japan is "... *Pholiota spectabilis*, observation curieuse puisqu'elle s'applique à une espèce propre en même temps à l'Europe où elle se montre parfaitement inoffensive or, il est certain que la forme japonaise — appelée *ô-waraitake* — ressemble en tous points à la *Pholiota* européenne."⁹ Nonetheless, Kawamura's book relates several cases of *Pholiota* poisoning, and Imazeki and Hongo in *Genshoku Nihon Kinrui zukan* (Colored Illustrations of Fungi of Japan) also cite *Pholiota spectabilis* as intoxicating (though under the name *Gymnopilus spectabilis*) and say, "The toxic characteristics of this mushroom are not fatal but it produces an abnormal stimulation of the nervous system. The victim of the poison becomes excited and is said to dance and sing and laugh as though crazy."¹⁰

Kawamura supports his claim with several cases in which he was able to verify that the mushrooms responsible for producing "*waraitake* intoxications" were in fact *Pholiota spectabilis*. Of one of these cases he gives the following detailed report:

On July 7, 1922, in Hôsen village of Nitta country in Gumma prefecture one Ouchi Gensaburô (age 20) found a clump of mushrooms growing on a stump. He

picked them and ate them that evening, after which he became intoxicated and broke out in laughter. His hands and feet moved continuously as though he were dancing and he walked in zigzags like someone who had drunk too much *sake*. The same sort of drunkenness had occurred the previous year but at that time it was much lighter and no attention had been paid to it. This time, however, after he had eaten mushrooms from the same stump, this normally reticent youth suddenly began to chatter in broken sentences and to dance about. When the poisoning became very evident he went to one Dr. Aragi for help. The patient quickly recovered and was completely normal by the next day. Samples of the mushroom were sent to Dr. Kawamura and proved to be specimens of *Pholiota spectabilis*.¹¹

Kawamura reports other similar cases involving *Pholiota spectabilis*, including one in 1930 when he again received identifiable specimens. In several of these cases the mushrooms had been cooked in soup, which treatment apparently eliminated their bitter taste though not their toxic potency.¹² This might go some way toward explaining why the mushrooms are known as toxic in Japan but not in Europe. For, usually, raw *Pholiota spectabilis* is quite unpleasant to the taste, and it would probably be hard for most people, intentionally or not, to choke down enough to produce any effect. This supposition is to some extent supported by a recent case in Massachusetts. A few summers ago, some local mushroom fans gathered a number of specimens of *Pholiota spectabilis* and, though they should have known better, ate them in a sauce over steak. A short time later, they suffered fits of giggling and hilarity that seemed funny until the realization that they were suffering from some kind of mushroom poisoning, the final determination of which they could not predict, hit them and the hilarity gave way to two or three hours of severe anxiety. After

⁸ *Ibid.*, pp. 548-551.

⁹ Roger Heim, *Les Champignons Toxiques et Hallucinogènes*, p. 41.

¹⁰ Imazeki and Hongo, *Genshoku Nihon kinrui zukan*, pp. 73-74.

¹¹ Kawamura, *op. cit.*, p. 549.

¹² *Ibid.*, pp. 549-551.

the fact, when they were asked how they had managed to eat anything so bitter, their explanation was that the steaks were prime meat and very thick and they just could not see wasting them. In this case, too, cooking may have rendered the mushrooms somewhat more palatable with minimal loss in toxicity. Another possibility might be that we have two or more subspecies of *Pholiota spectabilis* which vary in taste and toxic potency, or perhaps different growing conditions may have some effect. Such suppositions would help explain Heim's distrust of the Japanese reports. In any case, it is clear that in both Japan and the United States some *Pholiota spectabilis* have produced obvious psychophysiological symptoms.

Conclusions Regarding the Konjaku Tale

There are two likely conclusions to be drawn from this little study.

1. The maitake story in the *Konjaku monogatari* is probably a relatively straight re-telling of a case of mushroom intoxication, dating from about 1000 A.D.

2. The mushrooms involved were probably either *Panaeolus papilionaceus* or *Pholiota spectabilis*.¹³

¹³ Imazeki and Hongo, *op. cit.*, pp. 59-60, add one more possibility to our list of psychoactive mushrooms in Japan. They identify *waraitake* as *Panaeolus papilionaceus* (p. 56) and *ō-waraitake* as *Gymnopilus spectabilis* (i.e., *Pholiota spectabilis*) (pp. 73-74). However, they also mention still another mushroom *Psilocybe venenata* (*Stropharia venenata* or *Stropharia caerulescens*) which "if eaten by mistake produces unusual symptoms of toxicity that manifest themselves as a condition of frenzy and an unusual nervous excitement like that brought on by *waraitake*" (p. 60). This mushroom has the common names of *waraitakemodoki* ("false-waraitake") or *shibiretake* ("numbing mushroom"). Unfortunately, I am unable to find any other evidence about the toxicity of this species.

APPENDICES

I. Other Chinese and Japanese Mentions of "Laughing Mushrooms"

Research on the *Konjaku* tale led me to several other literary or semi-literary notations of "laughing" or "dancing" mushrooms. The Chinese work of the Sung period, the *Pi-shu lu-hua* ("Records of Summering Out of the Heat") by the compiler Yeh Meng-te (1077-1148) tells the following tale.

The valleys of Wen-tai about Mount Ssu-ming¹⁴ produce many mushrooms. However they are not all alike and some of those that are eaten prove to be poisonous. It is said that there was a Buddhist priest who taught [that when people ate such mushrooms if they would] dig up some dirt and mix it with cold water until it became muddy and then, after waiting a bit, drink the mixture, they would be restored to perfect health. I have seen this recipe myself. In the pharmacopeia of the hermit T'ao¹⁵ it is noted that this is called an "earth infusion" and that it will cure the effects of the maple-tree mushroom,¹⁶ which when eaten causes one to laugh uncontrollably and which is therefore known as the laughing fungus.¹⁷

The "Laughing fungus" also receives a mention, though a very brief one, in

¹⁴ Possibly wen-tai (warm terraces) is not a place name and the passage should read, "In the warm spots of the valleys about Mount Ssu-ming. . . ." In any case, Ssu-ming Shan itself is a famous mountain in the southwestern part of the Chekiang province of China that has close connections with the T'ien T'ai sect of Buddhism. *Daijiten*, vol. 13, p. 267.

¹⁵ The Hermit T'ao is T'ao Hung-ching (A.D. 451-536), who spent a good part of his life seeking the Taoist medicine of immortality. Cloistered in his mountain retreat far from the distractions of mundane matters he produced the famous Chinese pharmacopoeia, the *Ming yi pieh lu*. Herbert A. Giles, *A Chinese Biographical Dictionary*, pp. 718-719.

¹⁶ I have no specific identification to offer for the "maple-tree" mushroom. Probably it is a general term.

¹⁷ Yeh Meng-te. *Pi-shu lu-hua*, pp. 722-723. Here as in the other Chinese sources the character *chün* was used for "mushroom" rather than *jung*, the Chinese equivalent of the Japanese word *take*.

the *Wu tsa tsu* (Five-fold Miscellany) of 1619, which, after listing a number of mushrooms, notes: "There is also the 'laughing fungus'; those who eat it laugh uncontrollably."¹⁸

Perhaps the most intrinsically interesting literary mention of these mushrooms that I ran across was in the *Ukiyoburo* (The Worldly Bathhouse), a Japanese comic novel of the Tokugawa era (pub. 1809–1813). In this story, the "hero" Kechi (Skinflint) uses some *maitake* as the base for a special soup which he gives to a fellow called Nigakurō, because Nigakurō "is quite a poisonous character" who never talks or laughs. Nigakurō eats the soup as a side dish to some rice wine and finally comes to the local public bathhouse where Kechi and some cohorts await him. At first he is his usual stolid self, but soon his hands begin to dance by themselves, then even his feet. "Even though I don't want to dance, weirdly enough . . . oh, oh, oh . . .," he complains. At this point, a low-class entertainer — a sort of one-man band who imitates various instruments with his mouth — comes in and begins to call out drum rhythms. By the end of the scene, the usually saturnine Nigakurō has turned from a dour clod into a one-man "crazy show" (*Kyōgen*).¹⁹

The *Ukiyoburo* incident (here given only in bare outline) is very interestingly told, but it is almost certainly a derivative of the *Konjaku* tale. The sentence quoted above "even though I don't want to dance, weirdly enough . . . oh, oh, oh . . .," looks very much like a lift from the *Konjaku's* "Even as we were thinking 'How strange!' strangely enough we. . . ." Also, when Kechi first gets the *maitake*, he mentions that there are tales of such mushrooms in "the *Ujishui* and other ancient books." The *Ujishui monogatari* is a

folk collection closely related to the *Konjaku* and often confused with it. Even the use of *maitake* "dancing mushroom" rather than the more common term *waraitake* "laughing mushroom" is a bit suspicious. Thus, in spite of its interest, the *Ukiyoburo* version is probably purely literary and can add nothing factual to our knowledge of the "laughing" and "dancing" mushrooms.

II. Some addenda on *Panaeolus papilionaceus*

While the toxicity of *Pholiota spectabilis* has been doubted by some, the toxic qualities of *Panaeolus papilionaceus* and its close relatives have been recognized in many parts of the world. In at least one case they seem to have been used ritually, for in a recent article Robert Graves recalls, "A few years ago, having learned that certain Portuguese witches were using another variety of mushroom for magical enchantments, I arranged to have an example sent to the great mycologist, my friend Dr. Roger Heim, director of the Musée de L'Homme at Paris. It proved, so far as I recall, to have been *Panaeolus papilionaceus*."²⁰

Panaeolus intoxication is not unknown in the United States either. A rather well known mycologist in the Boston area has seen *Panaeolus papilionaceus* deliberately gathered in both Maine and Louisiana. Interestingly enough, in the case of New England, it was thrifty farmers taking advantage of an opportunity to get "drunk for nothing," while in Louisiana the gatherers were rather more modern sophisticates looking for a psychedelic thrill. Indeed, the best (though not too-readily available) description of *Panaeolus* intoxication that I found is based on a case that occurred in Maine as early as 1914. It is herewith appended almost

¹⁸ Hsieh Chao-shua. *Wu tsa tsu*, vol. 2, p. 91.

¹⁹ *Ukiyoburo*, pp. 305–306.

²⁰ Robert Graves. "The Divine Rite of Mushrooms," p. 110.

in toto as it was recorded by A. E. Verrill of Yale University, in the "Discussion and Correspondence" section of the journal *Science*.

Mr. W., whose narrative is here given, is a middle-aged, vigorous man, strictly temperate in his habits. He is a good botanist, and has made a special study of fungi. The account of his experience was dictated to me by him about a week after the event, while fresh is his memory. . . .

Narrative of Mr. W.

On July 10, 1914, I gathered a good mess of the mushrooms (*Panaeolus papilionaceus*) and had them cooked for dinner. There may have been about a pound of them as gathered, but when fried in butter they made no great quantity, owing to their softness and delicate structure.

They were all eaten by Mrs. Y. and myself. Peculiar symptoms were perceived in a very short time. Noticed first that I could not collect my thoughts easily, when addressed, nor answer readily. Could not will to arise promptly. Walked a short distance; the time was short, but seemed long drawn out; could walk straight but seemed drowsy; had no disagreeable stomach sensations, effects seemed entirely mental; remember little about the walk. Mrs. Y. was in about the same condition, according to Mr. Y. My mind very soon appeared to clear up somewhat and things began to seem funny and rather like intoxication. Walked with Mr. Y. A little later objects took on peculiar bright colors. A field of redtop grass seemed to lie in horizontal stripes of bright red and green, and a peculiar green haze spread itself over all the landscape. At this time Mrs. Y. saw nearly everything green but the sky was blue; her white handkerchief appeared green to her; and the tips of her fingers seemed to be like the heads of snakes.

Next, say about half an hour after eating, both of us had an irresistible impulse to run and jump, which we did freely. I did not stagger, but all my motions seemed to be mechanical or automatic, and my muscles did not properly nor fully obey my will. Soon both of us became very hilarious, with an irresistible impulse to laugh and joke immoderately, and almost hysterically at times. The laughing could be controlled only with great difficulty; at the same time we were indulging extravagantly in joking and what seemed to us

funny or witty remarks. Mr. Y., who was with us, said that some of the jokes were successful; others not so, but I can not remember what they were about.

Mr. Y. says that at this time the pupils of our eyes were very much dilated, and that Mrs. Y. at times rolled up her eyes and had some facial contortions, and slight frothing of saliva at the mouth. Later we returned to the house, about one quarter of a mile. At this time I had no distinct comprehension of time; a very short time seemed long drawn out, and a longer time seemed very short; the same as to distances walked; though not so when estimated by the eye. The hilarious condition continued, but no visual illusions occurred at this time.

After entering the house, I noticed that the irregular figures on the wall-paper seemed to have creepy and crawling motions, contracting and expanding continually, though not changing their forms; finally they began to project from the wall and grew out toward me from it with uncanny motions.

About this time I noticed a bouquet of large red roses, all of one kind, on the table and another on the secretary; then at once the room seemed to become filled with roses of various red colors and of all sizes, in great bunches, wreaths and chains, and with regular banks of them, all around me, but mixed with some green foliage, as in the real bouquets. This beautiful illusion lasted only a short time. About this time I had a decided rush of blood to my head, with marked congestion, which caused me to lie down. I then had a very disagreeable illusion. Innumerable human faces, of all sorts and sizes, but all hideous, seemed to fill the room and to extend off in multitudes to interminable distances, while many were close to me on all sides. They were all grimacing rapidly and horribly and undergoing contortions, all the time growing more and more hideous. Some were upside down.

The faces appeared in all sorts of bright and even intense colors — so intense that I could only liken them to flames of fire, in red, purple, green and yellow colors, like fireworks.

At this time I began to become alarmed and sent for the doctor, but he did nothing, for the effects were wearing off when he came. Real objects at this time appeared in their true forms, but if colored they assumed far more intense or vivid colors than natural; dull red becoming

brilliant red, etc. A little later, when standing up, I had the unpleasant sensation of having my body elongate upward to the ceiling, which receded. I grew far up, like Jack's bean-stalk, but retained my natural thickness. Collapsed suddenly to my natural height.

At this time I noticed the parlor organ and tried to play on it, to see the effect, but could not concentrate my mind nor manage my fingers. About this time my mind became confused and my remembrance of what happened next is dim and chaotic. Probably there was a partial and brief loss of consciousness. Lay down to wait for the doctor. Looking at my hands, they seemed to become small, emaciated, shrunken and bony, like those of a mummy. Mrs. Y. says that at this time her hands seemed to grow unnaturally large.

When I attempted to scratch a spot on my neck, it felt like scratching a rough cloth meal-bag full of meal, and it seemed as large as a barrel, and the scratching seemed quite impersonal. Later I imagined I was able, by a sort of clairvoyance, to tell the thoughts of those around me. Soon after this our conditions rapidly assumed the very hilarious phase, similar to that of the early stages with much involuntary laughing and joking. This condition gradually diminished after three o'clock, until our mental conditions became perfectly normal, at about six o'clock P.M. The entire experience lasted about six hours. No ill effects followed. There was no headache, nor any disturbance of the digestion.²¹

²¹ A. E. Verrill. In *Science*, vol. 40, no. 1029, pp. 408-410. It has been pointed out to me that Verrill's identification may not be one hundred percent trustworthy since it is hard to distinguish *Panaeolus papilionaceus* from other species of the genus and since a careless investigator might even confuse some species of *Psilocybe* with *Panaeolus*. And I must admit that the symptoms described by Verrill do seem

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to exceed those reported by the Japanese sources. But this might reflect either more complete reporting or larger "dosage." Also, the uncontrollable urge to run and jump and to talk disjointedly mentioned by Verrill seems in close consonance with the Japanese descriptions. At any rate, barring specific reasons to disbelieve Verrill's report, I tend to accept the identification.