

Fly Agaric and Man

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For the past three or four years I have devoted some of my time to the quest for information about the fly agaric, as this mushroom is called in England, *Amanita muscaria* Fr. as it is known to mycologists, and especially concerning its historic role in the Eurasian cultures, where its use as an inebriant has survived down to recent times. The results of my inquiries have led me to write a book on the subject, which is almost ready for the printer. Today it is my privilege to lay before you some of my findings and conclusions.

My theme has surprising ramifications, as I think you will agree when I have done. Indologists will review my evidence, but if I am right, it will be necessary for us all to make room in our own remote past for the part played by this mushroom, and the fly agaric will take its place by the side of alcohol, hashish, and tobacco as an outstanding inebriant utilized by *Homo sapiens* living in Eurasia.

The documented history of this inebriant goes back only to the 17th century and is confined to the northern reaches of Siberia. That its unwritten history begins earlier is certain, but how much earlier and how widespread its use was, are questions that remain to be answered. So far as I can learn, my inquiries mark the first fumbling effort to arrive at those answers.

The intellectual element in Europe learned for the first time of the fly agaric as an inebriant in 1730, when Philip John von Strahlenberg, a Swedish army officer, published in Stockholm a book written in German on the twelve years he had spent as a prisoner of the Russians in Siberia. This work, translated into English, came out in London in two printings, in 1736 and 1738, under a lengthy title beginning *An Historico-Geographical Description of the North and Eastern Parts of Europe and Asia* (1). Somewhat earlier, in 1658, a Polish prisoner in Siberia had observed the fly agaric being consumed for its inebriating effect by the Ostyak (or Khanty) in the valley of the Irtysh, a tributary of the Ob in western Siberia; but his diary was not published until 1874 (2). The first Russian to record the practice seems to have been Stepan Petrovich Krasheninnikov in 1755 (3), who, like von Strahlenberg, was writing about the Koryak, in the extreme Orient. Since their time more than a score of observers have given us accounts of this curious custom. They have included Russian anthropologists, linguists (many of these Hungarian or Finnish), and a varied assortment of travelers and adventurers, some of whom are remarkably superficial and supercilious. In my forthcoming book I am planning to publish *in extenso*, in English, what these men have had to say about the consumption of the fly agaric in Siberia. In addition to these primary sources, whether good or bad, there are a number of serious writers who have concerned themselves with the problem: the phar-

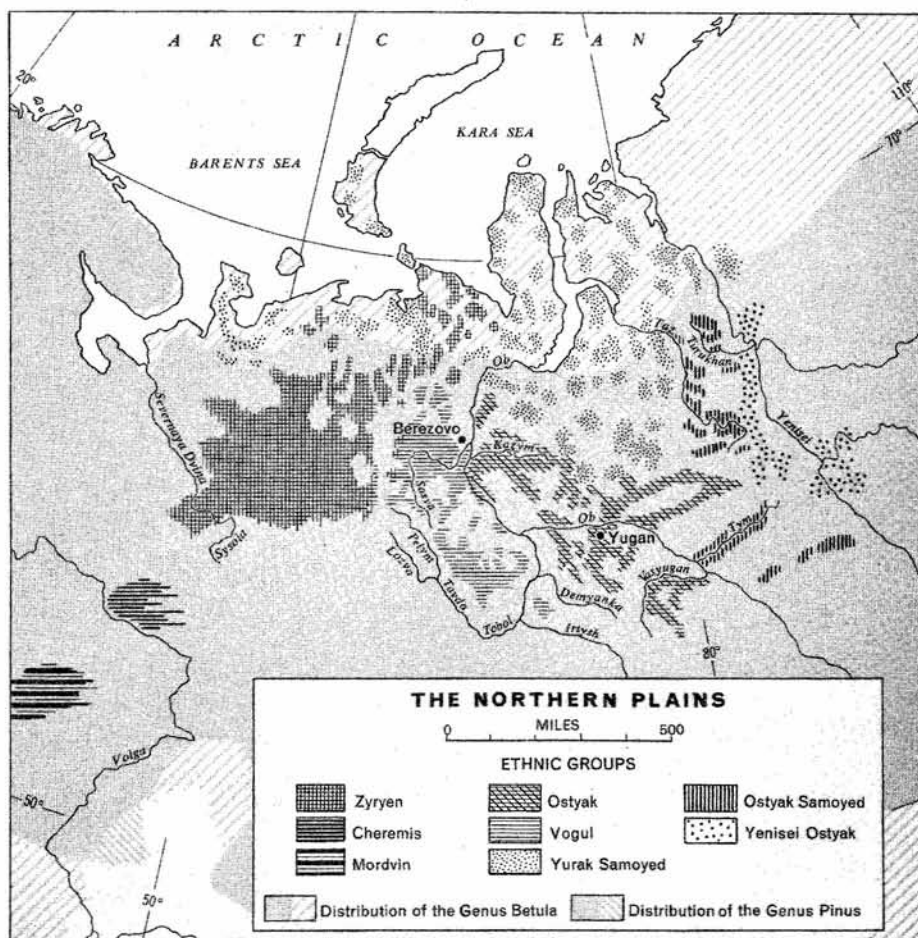
macologists Ernst von Bibra (4), C. Hartwich (5), and Louis Lewin (6)—all German—and the Frenchman Philipe de Félice (7), the Swede Åke Ohlmarks (8), and the Hungarian J. Balázs (9). In addition, there have been innumerable literary allusions traceable to the marvelous properties of the fly agaric. One need only mention as examples, in English, Oliver Goldsmith in his *Letters from a Citizen of the World* (No. 32), an immensely popular book in the 18th century, and the celebrated mushroom in *Alice in Wonderland*.

The Distribution of the Practice

We possess reliable testimony permitting us to say that in recent centuries there have been two foci where the fly agaric has been used as an inebriant.

1. In the Ob Valley, in the extreme west of Siberia, and along the Ob's eastern tributaries until they interlock with the tributaries of the upper Yenisei, and along the upper Yenisei (Map 1). In this region tribes belonging to the Uralic family of languages have been historically dominant, and these are the ones that have been addicted to the fly agaric. Along the Ob and its tributaries dwell the Ostyak and the Vogul, called in the Soviet Union the Khanty and the Mansi, respectively. They are Ugrians, linguistically the nearest of kin to the Hungarians, who together with the Finnic peoples constitute the Finno-Ugrian linguistic group. The Ostyak and Vogul historically have been great consumers of the fly agaric. Their next of linguistic kin, the Hungarians, have no recollection of the practice, but *bolond gomba*, a familiar expression or cliché in the Hungarian language, means "mad mushroom," as when one says to a person behaving foolishly, "Have you eaten of the *bolond gomba*?" and this may well be a linguistic fossil dating from a time when the Magyar people still shared in the eating of the fly agaric. Among the Finnic peoples, as distinct from the Ugrian, none take the fly agaric today. However, it is of the highest interest that T. I. Itkonen, a reliable investigator, has reported that according to a tradition of the reindeer Lapps of Inari, their shamans formerly ate it, and that it had to have seven white spots. This places the practice well within Europe's borders, on the assumption that the Inari Lapps have not migrated to the West since they abandoned the practice. In the upper Yenisei the Selkup (a Samoyed people), called in the West the Ostyak-Samoyed, and in addition the southern-most of the Yurak-Samoyed, until recent times still used the fly agaric as an inebriant. (The peoples speaking Samoyed languages and those speaking Finno-Ugrian languages together constitute the Uralic family.) Their neighbors, the Ket, also have consumed it. The Ket, called in the West the Yenisei Ostyak, speak a language without known affiliation.

2. In the extreme northeast of Siberia there are three tribes—the Chukchi, the Koryak, and the Kamchadal—who have used the fly agaric (Map 2). They are neighbors and linguistically closely inter-related, but their language family, like the Ket, is unrelated to any outside linguistic family. The Yukagir, surviving in tiny communities in the extreme north and to the west of the Chukchi, recall that their forebears made use of the fly agaric. They

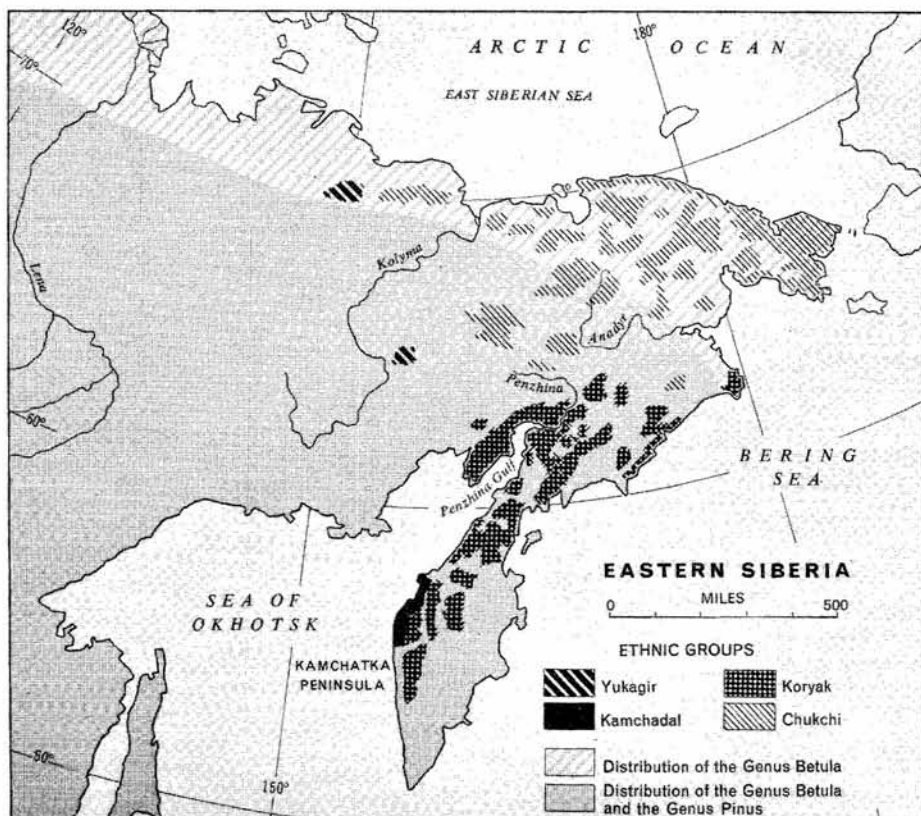


Map 1

also speak an isolated language. It is perhaps worth noting that the Gilyak, and the Ainu in Hokkaido, also peoples linguistically isolated, know nothing of the fly agaric as an inebriant.

The remoter communities of these peoples that I have been discussing did not know alcohol until the Russians or western whalers brought it to them. On a number of occasions the question has been put to individuals, when they have known both alcohol and the fly agaric, as to which they preferred. The answer, so far as it is recorded, was invariably the fly agaric.

What about the vast expanse of territory between the Uralic peoples on the West and the Chukchi group in the Far East (Map 3)? When the Russians arrived on the scene in the 17th century, this intermediate area was already occupied by the numerous Tungus tribes (including the Lamut), and by the Yakut, both of them belonging to the Altaic linguistic family identified with the Manchu, the Mongolian, and the Turkic-Tartar languages. Some western writers who have not visited these peoples have included them among the eaters of the fly agaric, but I can find no eye-witness authority for



Map 2

this. S. M. Shirokogorov, the authority on the Tungus peoples, never mentions such usage, and Ivan A. Lopatin, also with extensive personal experience, has assured me in a personal communication that their shamans know nothing of the practice.

I think the answer to this question lies in history. The Tungus and Yakut erupted into northern Siberia in historic times. It was they who, forming a wedge, split apart the peoples using the fly agaric. Soviet historians say that the migration of the Tungus people took place at the end of the first millennium A.D., and the invaders came from the steppes far to the south, where the fly agaric does not grow. As they were the conquering people of somewhat superior culture, they were less likely to adopt the practices of those whom they conquered and dislodged.

The Linguistic Evidence

A strange linguistic pattern marks the name used for fly agaric among the Siberian tribes. This word pattern undoubtedly holds the key to cultural secrets, but the key proves difficult to use.

(Vogul, Ostyak, Mordvinian, Cheremis, etc.) and is its resemblance to the Indo-European word represented by Greek (*s*)*póngos*, the English (*s*)*punk*, accidental? Or did the Finno-Ugrians (or some branches of them) borrow the word from Indo-European? If so, they did not borrow it from the Slavs because the wide spread of the word would indicate a much earlier contact between our Siberians and Indo-European, at a time when the Slavs (or Proto-Slavs) had had no contact with the Siberians-to-be.

In 1907 B. Munkácsi, the Hungarian philologist, suggested that the Iranian word *banha*, appearing already in the Avesta and meaning hemp, *Cannabis indica*, was the source, since in addition to its use for fibre, it serves as an inebriant, yielding hashish, otherwise known as marijuana or "pot". To me this suggestion seems in the highest degree unlikely. Here we have primitive Siberian communities living from of old in the birch and pine forests that they know intimately, their knowledge embracing of course the fly agaric growing in mycorrhizal relationship with these trees. In each of these languages they must have had a name or several names for this mushroom going back into the mists of time. We are asked to believe that suddenly, discovering the inebriating property of this mushroom, they go to Iran, a country where the birch and pine are not familiar trees, to borrow a name of an utterly different plant, *Cannabis indica*, to give to the fly agaric.

When specialized mushroom vocabularies grow from within a cultural milieu, the rule is that the specific names precede the generic term. But this rule does not apply when words are borrowed from an outside source. In this case a general term may be borrowed and given a specific meaning, or a specific name may acquire a new application, and the same name may be clothed with different applications in different communities, and may change its application according to the evolving use of the various wild mushroom species in the given cultural milieu.

If the root *poη* was borrowed from an Indo-European people, the loan of the word must have marked a new and significant utilization of a species of mushroom, a use that must have swept across Siberia with the word, perhaps rather quickly. Let us suppose that an Indo-European people making use of the inebriating effect of the fly agaric in their religious life imparted this practice to the Siberian tribes; or perhaps in war-time to help their soldiers screw their courage to the sticking point. This application of a mushroom to a supernatural use or as a secret weapon would surely have been a sufficient reason for them to adopt the Indo-European name of that mushroom.

But in our preoccupation with the inebriating effect of the fly agaric we must not overlook an alternative possibility. The basic fungal sense of the word (*s*)*póngos*, identical with the Germanic *Schwamm* and the Slavic *gomba*, is "sponge". The generation of fire was of overwhelming importance in the lives of the northern tribes, indeed making life possible in the northern latitudes. Whether by percussion or by friction, the spark that was struck had to be received in inflammable tinder, and the best tinder for this purpose has long been considered *Fomes fomentarius*, a heavy shelf or bracket fungus

that grows on many species of trees, but that is generally identified with the birch. When it is dried it is light as a feather and quickly converts a spark into a flame. In archaeological diggings *Fomes fomentarius* has been found next to the stones of fire places in dwellings at Maglemose in Denmark and Star Carr in Yorkshire, these diggings going back almost to the last ice age, some nine or ten thousand years ago. If an Indo-European people introduced to the Siberian tribes the use of this *punk*, or *spunk* (sic), or touch-wood (all of these meaning primary tinder), the Indo-European name for it would probably accompany the product wherever it went. That name meant "sponge", and it is striking that the original "sponge" was probably fungal and not marine, the marine sponge being a substitute given us by the Greeks after they had arrived in the Aegean. The preparation of this fungus for its purpose must have been one of the earliest industries of mankind in the northern latitudes—the making of the *amadou* of the French, the *esca* or *yesca* of the Italians and Spaniards, the *Zunderschwamm* of the Germans, the *trut* of the Russians.

Either this or the inebriating property of the fly amanita or a combination of both would have been of sufficient meaning in the lives of the ancestors of the Siberian tribesmen to explain the adoption of the root (*s*)*pon*, meaning "sponge" or "fungus", into the languages of Siberia. By a startling coincidence, the birch is the primary host for both *Fomes fomentarius* and the fly agaric, and the special place occupied by the tall Siberian birch in the imaginations of the Siberian peoples is certainly due not only to the ethereal beauty of the tree itself, but also to the fact that the fly amanita grows in mycorrhizal relationship with the roots of the birch, and that *Fomes fomentarius* grows from its trunk. It is true that the pine also is host to the fly agaric, but less often than the birch, and it is true that the beech and other trees are hosts to the *Fomes fomentarius*, but it is most commonly found on the birch. The birch is the Tree of Life for the man of the forest or taiga, supplying him with fire for his body and fire for his soul.

Surely I do not need to emphasize the speculative nature of these thoughts. To be dogmatic in terrain such as this is to court disaster. The etymology of words, the sequence of events, where there is so little to go on, is little more than guesswork. But I would have been derelict had I failed to call your attention to the linguistic problem presented by the wide diffusion of the root *pon* among the scattered Siberian tribesmen.

As those of you who are familiar with the writings of Mircea Eliade will perceive, I am forced to part company with him both on the etymology of the peculiar fungal word of the Siberian tribes and on the antiquity of the role of the fly agaric as an inebriant in Siberian shamanism (11). What Munkácsi advanced as a bold surmise he has converted into a statement of fact, elaborating on the etymology of *pon* with frightening self-assurance. His view that the use of narcotics to attain ecstasy is recent and only a "vulgar substitute for 'pure' trance" seems to run counter to such evidence as we have. For as far back as our records go, the area where the fly agaric was used by shamans has been shrinking, until its use is now virtually extinct. Consider primitive man groping his way forward, leading a precarious

existence, and in his ever urgent quest for food experimenting with every plant and animal and insect and fish: his fund of knowledge and beliefs being derived exclusively from his own experience and from what he learned by word of mouth from his parents and neighbors. He must sooner or later have discovered the properties of the hallucinogenic plants, a discovery made almost certainly before he discovered how to control the processes of fermentation and to make beer or wine or mead. These hallucinogenic plants opened the doors for him to horizons beyond any he had known in his cruel daily existence. They translated him to utterly different planes of existence, where ecstasy reigned. The discovery of these plants must have had an explosive effect on his soul. He would resort to them in moments of soul-hunger. They would suggest to him possibilities sparking his imagination and inventive zeal. Surely this creature, limited in his range of knowledge and living by rules taught him by his own experience, his imagination peopling the world with invisible spirits benevolent and malevolent, would regard the hallucinogenic plants as miraculous gifts of the gods, and in moments of need he would resort to them without hesitation as a channel of communication with the Immortals. Only after having known them and in default of them would he devise ways through disciplined austerity and self-imposed mortification of the flesh to achieve the same result, and later, having attained sophistication in these matters, would he perceive what many regard as the moral superiority of this road to beatitude.

The Hallucinogenic Properties of the Fly Amanita

We do not know nearly enough about the fly agaric as an hallucinogen. But the evidence indicates certain traits to be defined thus:

- a. It begins to act in fifteen or twenty minutes and the effects last for hours.
- b. First it is a soporific. One goes to sleep for about two hours, and the sleep is not normal. One cannot be roused from it, but is sometimes aware of the sounds round about. In this half-sleep sometimes one has coloured visions that respond, at least to some extent, to one's desires.
- c. Some subjects enjoy a feeling of elation that lasts for three or four hours after waking from the sleep. In this stage it is interesting to note that the superiority of this drug over alcohol is particularly emphasized: the fly agaric is not merely better, it belongs to a different and superior order of inebriant, according to those who have enjoyed the experience. During this state the subject is often capable of extraordinary feats of physical effort, and enjoys performing them.
- d. A peculiar feature of the fly agaric is that its hallucinogenic properties pass into the urine, and another may drink this urine to enjoy the same effect. Indeed it is said that the urine of three or four successive drinkers may be thus consumed without noticeable loss of

inebriating effect. This surprising trait of fly agaric inebriation is unique in the hallucinogenic world, so far as our present knowledge goes.

The soporific and kinetic effects of the fly amanita are utterly unlike anything produced by the mushrooms of the genus *Psilocybe* of Mexico.

The Indo-Aryans and Soma

An Indo-European people who called themselves Aryans conquered the valley of the Indus in the middle of the second millennium B.C. Their priests deified a plant that they called Soma, which has never been identified: scholars have almost despaired of finding it. The hymns that these priests composed have come down to us intact in the *RgVeda*, and many of them concern themselves with Soma. Lately there have been a number of fresh translations of the *RgVeda*, better than any of their predecessors.

This plant, Soma, was an hallucinogen. The juice was extracted from it in the course of the liturgy and forthwith drunk by the priests, who regarded it as a divine inebriant. It could not have been alcoholic, for various reasons; for one thing, fermentation is a slow process which the Vedic priests could not hurry.

I have studied these recent translations and it is apparent, I think, that Soma was the fly agaric. There are many touches in the lyric poems that fit the fly agaric as a glove, and I believe there are none that contradict it. To detail them here today would take too long, and I must ask you to wait for my book for the full dress presentation of my thesis.

If I am right that Soma is the fly agaric, we must revise our judgment about the role of fungi in the cultural history of Eurasia. The *RgVeda* is the earliest literary monument in the Hindu religion, and behold! it is a paean to the fly agaric! The *RgVeda* is one of the earliest texts that we possess from the Indo-European world, and behold! it is a paean to the fly agaric! If the Indo- Iranians really used the fly agaric, it means at an early date, before they left their homeland somewhere north of the Caucasus-Caspian-Oxus line, these tribes were consumers of the fly agaric. They or their congeners, fellow Indo-Europeans, may have given the fly amanita cult to the ancestors of the Obugrians of today, and the root *(s)poṇ* to their languages. If I am right, the adoration of the fly agaric was at a high level of sophistication 3,500 years ago (and who can say how much further back?) among the Indo-Europeans, and we are witnessing in our own generation the final disappearance of a practice that has held the peoples of northern Eurasia enthralled for thousands of years.

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